



Town of Arlington, MA Redevelopment Board

Agenda & Meeting Notice April 5, 2021

This meeting is being held remotely in accordance with the Governor's March 12, 2020 Order Suspending Certain Provisions of the Open Meeting Law G.L. c. 30A, Section 20. Public comments will be accepted during the public comment periods designated in the agenda. Per Board Rules and Regulations, public comments will be accepted during the public comment periods designated on the agenda. All comments may be provided by email to jraitt@town.arlington.ma.us by April 5, 2021 at 4:00 p.m. Please note that Town Administrative Offices will be closed on Friday, April 2, 2021.

The Arlington Redevelopment Board will meet Monday, April 5, 2021 at 7:00 PM in the
Join Zoom Meeting with audio and video by connecting using this link and Meeting ID:
<https://town-arlington-ma-us.zoom.us/j/96082543721> | Meeting ID: 960 8254 3721 or join by
calling: 1-646-876-9923, enter Meeting ID 960 8254 3721 followed by #

1. Docket #3650 190 & 192-200 Massachusetts Avenue Public Hearing

7:00 p.m. Board will open a public hearing to review an application filed February 8, 2021 by 190-200 Massachusetts Ave, LLC, 455 Massachusetts Avenue, Suite 1, Arlington, MA, in accordance with the provisions of MGL Chapter 40A § 11, and the Town of Arlington Zoning Bylaw Section 3.4, Environmental Design Review. The applicant proposes to construct a mixed-use building containing retail and 37 residential units, including 8 affordable units, at 190 & 192-200 Massachusetts Avenue, Arlington, MA in the B3 Village Business District. The opening of the Special Permit is to allow the Board to review and approve the development under Section 3.4, Environmental Design Review.

- Applicant will be provided 5 minutes for a presentation.
- DPCD staff will be provided 3 minutes to discuss public hearing memo.
- Members of the public will be provided time to comment.
- Board members will discuss each docket and may vote.

2. Zoning Warrant Article Public Hearings for 2021 Annual Town Meeting

8:00 p.m.

ARTICLE 35

ZONING BYLAW AMENDMENT/ INDUSTRIAL USES

To see if the Town will vote to amend the Zoning Bylaw to update and modernize the Industrial Zoning Districts by amending SECTION 2 DEFINITIONS to define new uses; SECTION 5 DISTRICT REGULATIONS to clarify the applicability of the upper story building step back, to redefine the Industrial Zoning District, to clarify amenity requirements in the Table of

Maximum Height and Floor Area Ratio and to add development standards, to include new uses and amend existing uses in the Table of Uses, and to provide additional standards for uses; and SECTION 6 SITE DEVELOPMENT STANDARDS to adjust the parking requirement for light manufacturing, to include standards for the Industrial Zoning Districts, to include standards for the Industrial Zoning Districts; and to adjust the bicycle parking standards for light manufacturing and office, medical or clinic uses; or take any action related thereto.

(Inserted at the request of the Redevelopment Board)

ARTICLE 36

ZONING BYLAW AMENDMENT/ DATE OF ZONING MAP

To see if the Town will vote to amend the Zoning Bylaw to update the date of the Zoning Map of the Town of Arlington, Massachusetts, to November 16, 2020; or take any action related thereto.

(Inserted at the request of the Redevelopment Board)

A brief introductory presentation will be provided for each article

Board members and members of the public will be provided time to ask questions and comment for each article

3. Meeting Minutes (2/8/21, 3/1/21)

10:00 p.m. Board will review and approve minutes

4. Open Forum

10:05 p.m. Except in unusual circumstances, any matter presented for consideration of the Board shall neither be acted upon, nor a decision made the night of the presentation. There is a three minute time limit to present a concern or request.

5. Adjourn

10:25 p.m. Estimated Time for Adjournment

6. Correspondence Received

Correspondence received from:
L. and T. Hayes 03282021



Town of Arlington, Massachusetts

Docket #3650 190 & 192-200 Massachusetts Avenue Public Hearing

Summary:

7:00 p.m.

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- Board members will discuss each docket and may vote.

ATTACHMENTS:

| Type | File Name | Description |
|----------------------|--|--|
| ▢ Reference Material | Agenda_Item_1_-_EDR_Public_Hearing_Memo_Docket_3650_190-200_Mass_Ave.pdf | EDR Public Hearing Memo Docket 3650 190-200 Mass Ave |
| ▢ Reference Material | Docket_3650_Updated_Solar_Studies_dated_March_18_2021.pdf | Docket 3650 Updated Solar Studies dated 03182021 |
| ▢ Reference Material | Docket_3650_Combined_Application_Materials-_compressed.pdf | Docket 3650 Combined Application Materials |



Town of Arlington, Massachusetts
Department of Planning & Community Development
730 Massachusetts Avenue, Arlington, Massachusetts 02476

Public Hearing Memorandum

The purpose of this memorandum is to provide the Arlington Redevelopment Board and public with technical information and a planning analysis to assist with the regulatory decision-making process.

To: Arlington Redevelopment Board

From: Jennifer Raitt, Secretary Ex Officio

Subject: Environmental Design Review, 190 & 192-200 Massachusetts Avenue, Arlington, MA, Docket #3650

Date: March 31, 2021

I. Docket Summary

This is an application by 190-200 Massachusetts Ave, LLC, 455 Massachusetts Avenue, Suite 1, Arlington, MA, to open Special Permit Docket #3650 for the construction of a mixed-use building containing retail and 37 residential units, including 8 affordable units, at 190 & 192-200 Massachusetts Avenue, Arlington, MA in the B3 Village Business District. The opening of the hearing is to allow the Board to review and approve the development under Section 3.4, Environmental Design Review Special Permit of the Arlington Zoning Bylaw.

The proposed building is a five-story mixed-use structure. The 37 residential units are a mix of studios, one-bedrooms, and two-bedrooms. Eight affordable units, or 21% of the total units, are provided. The single commercial space is proposed to be 2,084 square feet. Parking is provided onsite in a garage with 15 parking spaces.

Materials submitted for consideration of this application:

- Application for EDR Special Permit, including an Environmental Impact Statement;
- Site Development Plan Set, prepared by Allen & Major Associates, Inc, dated March 10, 2021;

- Architectural Drawing Set, including floor plans, elevations, renderings and a solar studies, prepared by Market Square Architects, dated March 1, 2021;
- Updated Solar Study, prepared by Market Square Architects, dated March 18, 2021;
- Reduced Height Buffer Area Narrative, prepared by Market Square Architects;
- Figure 1, Reduced Height Buffer Area, prepared by Allen & Major Associates, dated October 28, 2020;
- Drainage Summary Letter, prepared by Allen & Major Associates, dated March 10, 2021;
- Traffic Impact Statement Memorandum, prepared by MDM Transportation Consultants, Inc, dated December 21, 2020; and
- LEED Checklist.

II. Application of Special Permit Criteria (Arlington Zoning Bylaw, Section 3.3)

1. Section 3.3.3.A.

The use requested is listed as a Special Permit in the use regulations for the applicable district or is so designated elsewhere in this Bylaw.

Mixed-use is allowed by Special Permit in the B3 Village Business District. The Zoning Bylaw, in Section 5.5.1.D, indicates that the district's predominant uses include retail, service, and office establishments catering to both convenience and comparison-good shoppers and oriented to pedestrian traffic. Mixed-use buildings are allowed and encouraged, including in the principal business area at Lake Street and Massachusetts Avenue. Mixed-use is a combination of two or more distinct land uses, such as those proposed by this applicant, and the definition encourages such uses to be in a single, multi-story structure, such as that proposed by the applicant.

The Capitol Square area, at the intersection of Lake Street and Massachusetts Avenue, is the major shopping district in East Arlington. The B3 District stretches from Melrose Street and Marathon Street to just beyond Winter Street. To the west are single-story and three-story buildings in the B3 District; to the east are single-story buildings. Immediately adjacent to the B3 district are two high-density residential districts (R5 to the south and west and R6 to the north), including a six-story, 47-unit building and a five-story, 22-unit building. Beyond the parcels fronting on Massachusetts Avenue is the R2 district where the traditional two-family residential streetscape of East Arlington is dominant.

The Board can find that this condition is met.

2. Section 3.3.3.B.

The requested use is essential or desirable to the public convenience or welfare.

The requested use is essential and desirable. The second key finding in the Master Plan notes that *“Massachusetts Avenue has the capacity for growth. It can support mixed-use development commensurate with its function as Arlington’s primary commercial corridor. Massachusetts Avenue is accessible to neighborhoods throughout the town; it has frequent bus service, bicycle routes, and good walkability. Increased density through greater building heights and massing would benefit the corridor from an urban design perspective and benefit the town from a fiscal perspective.”*(p.8)

This proposal will bring thirty-seven (37) new two-bedroom, one-bedroom, and studio residential units, of which eight¹ will be affordable to households earning at or below 70% of the area median income, and one commercial space. The Town has clearly established affordable housing priorities described in its Housing Production Plan (adopted by the Select Board and Redevelopment Board and approved by the State in 2016). New housing opportunities, including market-rate and affordable homes, are needed in the community; this project helps address that demand.

While the addition of residential units is desired, there is a net loss of 9,300 square feet of commercial space. The loss is due to the need to also provide parking on the site. A 2,084 square foot commercial space (noted as retail/restaurant on the architectural plans) would remain following the redevelopment of the site. Although several commercial spaces in the existing building are vacant due to the pandemic or other business reasons,² the loss of an entire block of commercial storefronts is difficult to balance with the applicant’s proposal to consolidate the commercial storefront to one space and to provide parking.

It should be noted that an apartment building is allowed by special permit in the B3 District, so providing any commercial space within the building remains a desirable condition. The Board can find that this condition is met.

3. Section 3.3.3.C.

The requested use will not create undue traffic congestion or unduly impair pedestrian safety.

As discussed in more detail under the EDR Circulation criteria, while the Traffic Impact Analysis shows a net reduction in trips to the site, that may be the result of the loss of a substantial amount of commercial space in the building. The Traffic Impact Analysis is missing key details about how new trips will access the site to fully assess traffic congestion around the site.

¹ Eight units exceeds the requirement of Section 8.2.

² The Town tracks commercial and industrial property vacancies. This property owner has more commercial vacancies in Arlington than any other commercial property owner in Arlington.

It is not expected that the proposed project will unduly impair pedestrian safety.

4. Section 3.3.3.D.

The requested use will not overload any public water, drainage or sewer system or any other municipal system to such an extent that the requested use or any developed use in the immediate area or in any other area of the Town will be unduly subjected to hazards affecting health, safety, or the general welfare.

A Drainage Summary letter indicates that standards have been met with the proposed stormwater design, which includes a new connection that collects stormwater from the roof and directs into the drainage system in the street. In addition, a very modest amount of landscaped areas will be added to the site resulting in a reduction of impervious area and quantity of stormwater flowing from the site. The proposed project will improve, not overload, public utilities. The Board can find that this condition is met.

5. Section 3.3.3.E.

Any special regulations for the use as may be provided in the Bylaw are fulfilled.

As a condition of any decision for the proposed mixed-use building, the Applicant will need to fulfill the requirements of Section 8.2 which outline the affordable housing requirements. A building with thirty-seven (37) units requires six affordable units that are representative of the mix of units in the building available to eligible households making up to 70% of the area median income. In excess of the requirement, applicant materials indicate that eight units would be designated as affordable and are equitably dispersed throughout the proposed building. There are no other special regulations for the use that must be fulfilled. The Board can find that this condition is met.

6. Section 3.3.3.F.

The requested use will not impair the integrity or character of the district or adjoining districts, nor be detrimental to the health or welfare.

The proposed building departs from the commercial block architecture exhibited most prominently in the structure containing the Capitol Theatre. Neither the former bank building, which was adaptively reused for restaurants for decades, nor the rest of this commercial block are not listed on the Arlington Historical Commission's Inventory. The Historic Preservation Survey Master Plan recommended including this block on a Capitol Square area form. The prominent bank entry of the bank building is proposed to be retained and gives the ground floor its brick aesthetic consistent with the Capitol Square business district. The upper floor façade is a mix of white and grey fiber cement panels. Attention should be given to better blending the bank entry into the second story through potentially the color choice of the cement panels or other building façade materials which better align with masonry on the first floor.

Further, the Applicant should clarify whether the screened views into the parking garage on Lake Street are necessary for ventilation of the garage. In general, this style is unfriendly to pedestrians and does not create an inviting streetscape. If the screened openings are not necessary for ventilation, or even if they are, the applicant should consider a different treatment that is more supportive of the pedestrian experience.

The building also includes differentiation of the upper story and variation in the façade with a common roof deck overlooking Massachusetts Avenue, which is encouraged in the Arlington Design Standards.

Bicycle parking is available throughout the building and vehicular parking is located on the ground floor of the building. Signage and wayfinding placeholders are shown on the plans, but the Applicant should provide details regarding dimensions and materials.

The Applicant is proposing a floor area ratio (FAR) of 4.1. The existing building's FAR is 0.9. The Zoning Bylaw allows a maximum FAR of 1.5 for a mixed-use building on a lot less than 20,000 square feet in this zoning district. The Capitol Theatre building at 202-218 Massachusetts Avenue, developed in the 1920s, exceeds the FAR of 1.5 at 2.6.³ If the Applicant is limited to the FAR of 1.5, the resulting building could have a maximum floor area of 16,701 square feet. This might be a single-story building with a partial second story covering the full lot, or a three-story building covering half the lot. The maximum FAR of 1.5 is at odds with the maximum story and height allowed in the Zoning Bylaw of up to 5 stories and 60 feet respectively.

Regarding the maximum number of stories, the Applicant seeks relief from the Reduced Height Buffer area of Section 5.3.19 to allow the maximum 5 stories and 60 feet. The Applicant states that since the lower density R2 district is not immediately adjacent to the property, the affect of the greater height is limited. A shadow study has been provided which indicates that only in the winter months will shadows from the building extend across Massachusetts Avenue to the R2 district on Cleveland Street.

The proposed mixed-use building is in keeping with adjacent land uses, particularly along Massachusetts Avenue. While it is desired to maintain or increase the amount of commercial space, new residential units will not impair the integrity or character of the district or the adjoining districts and it will not be detrimental to health or welfare. While the proposed structure building design is generally consistent with the Design Standards for the Town of Arlington, it is lacking active ground floor uses which are encouraged along Massachusetts Avenue per the Design Standards.

³ In fact, because the lot at 202-218 Massachusetts Avenue is more than 20,000 square feet, the FAR for a mixed-use building is 1.4 per the Zoning Bylaw.

7. Section 3.3.3.G.

The requested use will not, by its addition to a neighborhood, cause an excess of the use that could be detrimental to the character of said neighborhood.

The use will not be in excess or detrimental to the character of the neighborhood. The Board can find this condition is met.

III. Environmental Design Review Standards (Arlington Zoning Bylaw, Section 3.4)

1. EDR-1 Preservation of Landscape

The landscape shall be preserved in its natural state, insofar as practicable, by minimizing tree and soil removal, and any grade changes shall be in keeping with the general appearance of neighboring developed areas.

The existing property is entirely impervious and there is no natural landscape to preserve with the building fully saturating the building lot. As part of the project, approximately 1,125 square feet of impervious material will be replaced with grassed areas and arborvitae along the rear property line. Along the street, perennial plantings and shrubs will be planted. The new landscaping will provide a buffer from the property at 8 Lake Street, which includes a rear parking lot and drive aisle. The Board can find that this condition is met.

2. EDR-2 Relation of the Building to the Environment

Proposed development shall be related harmoniously to the terrain and to the use, scale, and architecture of the existing buildings in the vicinity that have functional or visible relationship to the proposed buildings. The Arlington Redevelopment Board may require a modification in massing so as to reduce the effect of shadows on the abutting property in an R0, R1 or R2 district or on public open space.

There are a range of architectural styles in the vicinity. The proposed development is in the B3 Village Business District which is the dominant zoning district in Capitol Square. Building heights in the vicinity range from single-story to six-story. As the Town's Design Standards indicate, greater height in certain locations can be beneficial. The proposed building step-back helps to diminish the impact of overall building height. While the ground floor storefront has a compatible aesthetic for the business district, it does not relate well to the upper floors. More could be done to improve the human scale at the ground floor. An overall improved building façade treatment that relates to the building's prominent location and an active street level use would improve the relationship of the building to the environment.

3. EDR-3 Open Space

All open space (landscaped and usable) shall be so designed as to add to the visual amenities of the vicinity by maximizing its visibility for persons passing by the site or overlooking it from nearby properties. The location and configuration of usable open

space shall be so designed as to encourage social interaction, maximize its utility and facilitate maintenance.

As noted above, the proposed project will add areas of landscaping to an existing impervious site. The proposal includes approximately 1,125 square feet of landscaped open space along the rear of the building, which also provides a buffer with the adjacent building at 8 Lake Street. This is about half of the 10% landscaped open space requirement. The usable open space is located on the roof deck and is approximately 2,140 square feet. This is only 9% of the usable open space requirement and does not meet all the requirements for usable open space.

Additionally, the setback for the proposed building is on a corner lot meaning that the setback should be the same as an adjacent lot. On the Lake Street and Chandler Street frontage, the adjoining lot is an apartment building in the R5 Zoning District which would be approximately 16.5 ft. (10 ft + (65 ft/10 ft)). The Board can adjust this requirement per Section 5.3.16.

Lastly, a 15-foot buffer is required along the parking lot adjacent to the R5 lot to the rear of the building. This proposed buffer would be planted and a vinyl fence will be installed allowing the buffer to be reduced to 7.5 feet, which is seen on the plans.

4. EDR-4 Circulation

With respect to vehicular and pedestrian and bicycle circulation, including entrances, ramps, walkways, drives, and parking, special attention shall be given to location and number of access points to the public streets (especially in relation to existing traffic controls and mass transit facilities), width of interior drives and access points, general interior circulation, separation of pedestrian and vehicular traffic, access to community facilities, and arrangement of vehicle parking and bicycle parking areas, including bicycle parking spaces required by Section 6.1.12 that are safe and convenient and, insofar as practicable, do not detract from the use and enjoyment of proposed buildings and structures and the neighboring properties.

The proposed project includes 15 spaces for vehicles located in the ground floor garage, including one HP vehicle space and an EV charger space. Short-term and long-term bicycle parking is provided. Improved sidewalks, curb cuts, and curb treatments are also proposed. Any such proposed improvements in the public right-of-way will require additional review and approval by the Engineering Division.

The parking requirement is for mixed-use which calculates the parking required for each individual use; the parking required for the residential use totals 45 parking spaces, and while the commercial space would typically require seven parking spaces, the first 3,000 square feet of non-residential space in mixed-use buildings is exempt from the parking requirements per Section 6.1.10.C. The applicant is requesting a reduction in the number of parking spaces provided to 15 spaces per Section 6.1.5 of the Zoning Bylaw. If the parking requirement is further reduced to eliminate four more parking spaces, the retail/restaurant space could increase.

Regarding meeting the long-term bicycle parking requirements, 60 spaces are provided, which exceeds the requirement by three spaces. While it is appreciated that the long-term bicycle storage is provided on the residential floors, it is not provided on all residential floors and there is not any indication that the required long-term bicycle parking for the retail/restaurant space is provided. Additionally, the applicant should clarify the size of the elevator and whether a bicycle could fit in the elevator without having to lift the bike. If the elevator is too small and people to use the stairs with their bikes, that will make the bike parking unusable for most people. The required short-term bicycle parking is provided near the entrance to the garage and residential lobby. This is not an ideal location for short-term parking for visitors to the retail/restaurant space. While the space along Massachusetts Avenue is limited, effort should be made to identify a location for short-term bicycle parking.

| Vehicle Parking Requirements* | | | |
|--|-----------------------------------|--------------------------------------|--|
| <u>Number of Bedrooms/ Apartment Use</u> | <u>Number of Units</u> | <u>Zoning Requirement</u> | <u>Total Parking Required</u> |
| 2-bedroom | 4 | 2 | 8 |
| 1-bedroom | 23 | 1.15 | 27 |
| Studio | 10 | 1 | 10 |
| Total Required Vehicle Parking | | | 45 |
| Total Proposed Vehicle Parking after Section 6.1.5 Reduction | | | 15 |
| * First 3,000sf of non-residential space in mixed-use buildings is exempt. | | | |
| Bicycle Parking Requirements | | | |
| <u>Use</u> | <u>Short-Term Parking</u> | <u>Long-Term Parking</u> | |
| Residential | 4 spaces | 56 spaces | |
| Retail | 1 space | 1 space | |
| Total Required Bicycle Parking | 5 | 57 | |
| Total Proposed Bicycle Parking | 8 | 60 | |

The TDM measures that are proposed include unbundling parking (although clarification on how the parking spaces will be assigned is necessary), providing bicycle parking exceeding the requirement, improving walking conditions by reconstructing the sidewalk, providing an EV charging space, and including a car-sharing parking space. The applicant should provide an update on whether a car sharing company is interested in having a garage space. Comments regarding the bicycle parking are provided above. The suggestion to reconstruct the sidewalks and ramps on Lake Street and Massachusetts Avenue seems unnecessary as the area was reconstructed as part of the Massachusetts Avenue reconstruction. The sidewalk on Chandler Street should be reconstructed. Additionally, the bench proposed for replacement is new and may not need to be replaced. The inclusion of planters is a nice addition, but additional

consideration needs to be given to the human scale elements of the ground floor space.

The proposed project is highly accessible by transit, bike, and walking, and since there is a significant reduction in commercial space, it is likely that the aggregate number of trips to this location will be reduced as the Traffic Impact Analysis claims. However, in the Capitol Square business district there is no existing on-site public parking for these buildings, and it is assumed that the provided parking would be for residential tenants not for patrons of the commercial space. Currently, it is likely that most trips to this location are parking on-street on Massachusetts Avenue, Chandler Street, or another public street. As such, the actual impact of the current trips is dispersed across Massachusetts Ave and other streets.

Since a parking lot will be introduced to the site, many of the remaining trips estimated will directly come on-site to park. The Traffic Impact Analysis does not provide any traffic count data, but it is likely that more trips will happen via Chandler Street since that is how the parking lot will be accessed. While the total number of new trips on Chandler Street may not be very large in real terms, it may be perceived to be many in comparison to the existing traffic. Without any traffic data for Chandler Street, it is difficult to discern the impact.

The parking garage does provide the 24-foot aisle necessary for two-way traffic. One-way traffic through the property would be ideal, but an ingress or an egress on Lake Street is extremely close to the Lake Street and Massachusetts Avenue intersection where it might cause congestion and crashes at any already busy intersection. The Traffic Impact Analysis also fails to address the various ways to access Chandler Street. Due to the network of one-way streets and various turn restrictions, the only way to access the parking lot from Lake Street is from Brooks Avenue. There are a few options from Massachusetts Avenue, but each requires making a circuitous route driving down to Herbert Road and back up Chandler Street. It may be appropriate for the ARB to request a trip distribution analysis to assess how people will access this site. The Applicant may also want to report on how communication with the adjacent property owner to gain access rights to use the alleyway between the project site and 8 Lake Street.

Overall, the ARB may want more detailed information regarding circulation around the site to adequately assess the proposal.

5. EDR-5 Surface Water Drainage

Special attention shall be given to proper site surface drainage so that removal of surface waters will not adversely affect neighboring properties or the public storm drainage system. Available Best Management Practices for the site should be employed, and include site planning to minimize impervious surface and reduce clearing and re-grading. Best Management Practices may include erosion control and stormwater treatment by means of swales, filters, plantings, roof gardens,

native vegetation, and leaching catch basins. Stormwater should be treated at least minimally on the development site; that which cannot be handled on site shall be removed from all roofs, canopies, paved and pooling areas and carried away in an underground drainage system. Surface water in all paved areas shall be collected in intervals so that it will not obstruct the flow of vehicular or pedestrian traffic and will not create puddles in the paved areas. In accordance with Section 3.3.4., the Board may require from any Applicant, after consultation with the Director of Public Works, security satisfactory to the Board to ensure the maintenance of all stormwater facilities such as catch basins, leaching catch basins, detention basins, swales, etc. within the site. The Board may use funds provided by such security to conduct maintenance that the Applicant fails to do. The Board may adjust in its sole discretion the amount and type of financial security such that it is satisfied that the amount is sufficient to provide for any future maintenance needs.

The application materials, drainage summary letter, and site development plan show a new connection to carry roof runoff to the drainage system in the street. This is an improvement over the existing conditions. The proposed design complies with the Town's current stormwater bylaw. Final design materials must be submitted for review and approval by the Town Engineer.

6. EDR-6 Utilities Service

Electric, telephone, cable TV, and other such lines of equipment shall be underground. The proposed method of sanitary sewage disposal and solid waste disposal from all buildings shall be indicated.

All new utility service will be underground. The Board can find that this condition is met.

7. EDR-7 Advertising Features

The size, location, design, color, texture, lighting and materials of all permanent signs and outdoor advertising structures or features shall not detract from the use and enjoyment of proposed buildings and structures and the surrounding properties.

The application materials show representative signs on the commercial storefront. The applicant should submit specifications of this signage for the Board to assess. Additionally, lighting and any other potential outdoor features relative to the building should be provided.

8. EDR-8 Special Features

Exposed storage areas, exposed machinery installations, service areas, truck loading areas, utility buildings and structures, and similar accessory areas and structures shall be subject to such setbacks, screen plantings or other screening methods as shall reasonably be required to prevent their being incongruous with the existing or contemplated environment and the surrounding properties.

The roofing plan provided indicates that roof structures are appropriately set back and that a parapet and additional screening will provide screening of said structures. The site plan shows an enclosed dumpster and recycling area located in the garage parking. The existing businesses currently utilize on-street parking for truck loading and unloading and for service deliveries. The Board can find that this condition is met.

9. EDR-9 Safety

With respect to personal safety, all open and enclosed spaces shall be designed to facilitate building evacuation and maximize accessibility by fire, police and other emergency personnel and equipment. Insofar as practicable, all exterior spaces and interior public and semi-public spaces shall be so designed to minimize the fear and probability of personal harm or injury by increasing the potential surveillance by neighboring residents and passersby of any accident or attempted criminal act.

The proposed building has been designed to meet all relevant health and safety codes. A lighting plan was not provided as part of the plan set. These details are needed to assess safety criteria.

10. EDR-10 Heritage

With respect to Arlington's heritage, removal or disruption of historic, traditional or significant uses, structures or architectural elements shall be minimized insofar as practical whether these exist on the site or on adjacent properties.

The existing structure is not listed on the *Inventory of Historically or Architecturally Significant Properties in the Town of Arlington* nor is it under the jurisdiction of the Arlington Historical Commission. As such, the site contains no historic, traditional, or significant uses, structures, or architectural elements. The Board can find this condition is met.

11. EDR-11 Microclimate

With respect to the localized climatic characteristics of a given area, any development which proposes new structures, new hard surface, ground coverage or the installation of machinery which emits heat, vapor or fumes shall endeavor to minimize insofar as practicable, any adverse impacts on light, air and water resources or on noise and temperature levels of the immediate environment.

Based upon materials provided in the application, there will be no adverse impacts on air and water resources or on temperature levels of the immediate environment. While the owner states that they do not contemplate installation of machinery that emits heat, vapors, or fumes in connection with the proposed building, additional plan details are needed regarding lighting and emissions from machinery located on the roof to determine any impacts on the immediate environment. Mechanical specifications for the HVAC equipment should also be provided.

12. EDR-12 Sustainable Building and Site Design

Projects are encouraged to incorporate best practices related to sustainable sites, water efficiency, energy and atmosphere, materials and resources, and indoor environmental quality. Applicants must submit a current Green Building Council Leadership in Energy and Environmental Design (LEED) checklist, appropriate to the type of development, annotated with narrative description that indicates how the LEED performance objectives will be incorporated into the project.

The proposed building generates a LEED score that demonstrates the building could be LEED certified. We recommend that the proposed building aim to achieve higher LEED performance standards where possible, particularly in energy and atmosphere category. The Board can find that this condition is met.

IV. Findings

The following findings are for the Board's consideration:

1. The ARB finds that the project is consistent with Environmental Design Review per Section 3.4 of the Zoning Bylaw.
2. The ARB finds that the setbacks on Lake Street and Chandler Street are appropriate per Section 5.3.16.
3. The ARB finds that the five-story building will not adversely affect the adjacent R2 zoning districts per Section 5.3.19.
4. The ARB finds that the parking reduction and TDM measures justify the parking reduction per Section 6.1.5.

V. Conditions

A. General

1. The final design, sign, exterior material, landscaping, and lighting plans shall be subject to the approval of the Arlington Redevelopment Board or administratively approved by the Department of Planning and Community Development. Any substantial or material deviation during construction from the approved plans and specifications is subject to the written approval of the Arlington Redevelopment Board.
2. Any substantial or material deviation during construction from the approved plans and specifications is subject to the written approval of the Arlington Redevelopment Board.
3. The Board maintains continuing jurisdiction over this permit and may, after a duly advertised public hearing, attach other conditions or modify these conditions as it deems appropriate in order to protect the public interest and welfare.

4. Snow removal from all parts of the site, as well as from any abutting public sidewalks, shall be the responsibility of the owner and shall be accomplished in accordance with Town Bylaws.
5. Trash shall be picked up only on Monday through Friday between the hours of 7:00 am and 6:00 pm. All exterior trash and storage areas on the property, if any, shall be properly screened and maintained in accordance with Article 30 of Town Bylaws.
6. The Applicant shall provide a statement from the Town Engineer that all proposed utility services have adequate capacity to serve the development. The applicant shall provide evidence that a final plan for drainage and surface water removal has been reviewed and approved by the Town Engineer.
7. Upon installation of landscaping materials and other site improvements, the Applicant shall remain responsible for such materials and improvement and shall replace and repair as necessary to remain in compliance with the approved site plan.
8. All utilities serving or traversing the site (including electric, telephone, cable, and other such lines and equipment) shall be underground.
9. Upon the issuance of the building permit the Applicant shall file with the Building Inspector and the Department of Community Safety the names and telephone numbers of contact personnel who may be reached 24 hours each day during the construction period.
10. Building signage will be filed with and reviewed and approved by the Department of Planning and Community Development and Inspectional Services.

B. Special Conditions

1. The owner will work with the Department of Planning and Community Development to comply with all requirements of Section 8.2, Affordable Housing Requirements.
2. The affordable units must be equitably dispersed throughout the building and shall be comparable to market-rate units in terms of location, quality and character, room size, number of rooms, number of bedrooms, and external appearance.
3. An Affordable Housing Deed Restriction shall be executed with the Town prior to issuance of an Occupancy Permit for the eight affordable units.

4. No condominium conversion of said affordable rental units shall be permitted without the express permission of this Board. In the case of a proposed condominium conversion, Applicant shall work with the Department of Planning and Community Development to ensure that the units continue to meet the requirements of Section 8.2.





TOWN OF ARLINGTON
REDEVELOPMENT BOARD

Application for Special Permit In Accordance with Environmental Design
Review Procedures (Section 3.4 of the Zoning Bylaw)

Docket No. _____

1. Property Address 190 & 192-200 Massachusetts Ave
Name of Record Owner(s) 190-200 Massachusetts Ave, LLC Phone 781-654-6306
Address of Owner 455 Massachusetts Ave, Ste 1, Arlington, MA 02474
Street City, State, Zip
2. Name of Applicant(s) (if different than above) Same as above
Address _____ Phone _____
Status Relative to Property (occupant, purchaser, etc.) _____
3. Location of Property Map 6, Block 3, Lots 1A and 1B
Assessor's Block Plan, Block, Lot No.
4. Deed recorded in the Registry of deeds, Book _____, Page _____;
-or- registered in Land Registration Office, Cert. No. 3413N, in Book 1362, Page 16.
1376 27
5. Present Use of Property (include # of dwelling units, if any) Retail, Service, Restaurant
6. Proposed Use of Property (include # of dwelling units, if any) Mixed-Use
37 Apartment Units & Retail
7. Permit applied for in accordance with _____ 3.4 _____ Environmental Design Review
the following Zoning Bylaw section(s) 5.5.2 _____ Dimensional and Density Regulations
SP _____ (Mixed-Use <=20,000SF)
section(s) title(s)
8. Please attach a statement that describes your project and provide any additional information that may aid the ARB in understanding the permits you request. Include any reasons that you feel you should be granted the requested permission.
See Attached

(In the statement below, strike out the words that do not apply)

The applicant states that 192-200 Massachusetts Ave, LLC is the owner -or- occupant -or- purchaser under agreement of the property in Arlington located at 190 & 192-200 Massachusetts Ave which is the subject of this application; and that unfavorable action -or- no unfavorable action has been taken by the Zoning Board of Appeals on a similar application regarding this property within the last two years. The applicant expressly agrees to comply with any and all conditions and qualifications imposed upon this permission, either by the Zoning Bylaw or by the Redevelopment Board, should the permit be granted.

Signature of Applicant(s)

Address Phone



Town of Arlington Redevelopment Board
Application for Special Permit in accordance with
Environmental Design Review (Section 3.4)

Required Submittals Checklist

Two full sets of materials and one electronic copy are required. A model may be requested. Review the ARB's Rules and Regulations, which can be found at arlingtonma.gov/arb, for the full list of required submittals.

- X Dimensional and Parking Information Form (see attached)
- X Site plan of proposal
- N/A Model, if required
- X Drawing of existing conditions
- X Drawing of proposed structure
- X Proposed landscaping. May be incorporated into site plan
- X Photographs
- X Impact statement
- N/A Application and plans for sign permits
- X Stormwater management plan (for stormwater management during construction for projects with new construction)

FOR OFFICE USE ONLY

| | | |
|-------|--|-------------|
| _____ | Special Permit Granted | Date: _____ |
| _____ | Received evidence of filing with Registry of Deeds | Date: _____ |
| _____ | Notified Building Inspector of Special Permit filing | Date: _____ |

TOWN OF ARLINGTON REDEVELOPMENT BOARD

Petition for Special Permit under Environmental Design Review (see Section 3.4 of the Arlington Zoning Bylaw for Applicability)

For projects subject to Environmental Design Review, (see Section 3.4), please submit a statement that completely describes your proposal, and addresses each of the following standards.

1. **Preservation of Landscape.** The landscape shall be preserved in its natural state, insofar as practicable, by minimizing tree and soil removal, and any grade changes shall be in keeping with the general appearance of neighboring developed areas.
2. **Relation of Buildings to Environment.** Proposed development shall be related harmoniously to the terrain and to the use, scale, and architecture of existing buildings in the vicinity that have functional or visual relationship to the proposed buildings. The Arlington Redevelopment Board may require a modification in massing to reduce the effect of shadows on abutting property in an R0, R1 or R2 district or on public open space.
3. **Open Space.** All open space (landscaped and usable) shall be so designed as to add to the visual amenities of the vicinity by maximizing its visibility for persons passing the site or overlooking it from nearby properties. The location and configuration of usable open space shall be so designed as to encourage social interaction, maximize its utility, and facilitate maintenance.
4. **Circulation.** With respect to vehicular, pedestrian and bicycle circulation, including entrances, ramps, walkways, drives, and parking, special attention shall be given to location and number of access points to the public streets (especially in relation to existing traffic controls and mass transit facilities), width of interior drives and access points, general interior circulation, separation of pedestrian and vehicular traffic, access to community facilities, and arrangement of vehicle parking and bicycle parking areas, including bicycle parking spaces required by Section 8.13 that are safe and convenient and, insofar as practicable, do not detract from the use and enjoyment of proposed buildings and structures and the neighboring properties.
5. **Surface Water Drainage.** Special attention shall be given to proper site surface drainage so that removal of surface waters will not adversely affect neighboring properties or the public storm drainage system. Available Best Management Practices for the site should be employed, and include site planning to minimize impervious surface and reduce clearing and re-grading. Best Management Practices may include erosion control and storm water treatment by means of swales, filters, plantings, roof gardens, native vegetation, and leaching catch basins. Storm water should be treated at least minimally on the development site; that which cannot be handled on site shall be removed from all roofs, canopies, paved and pooling areas and carried away in an underground drainage system. Surface water in all paved areas shall be collected at intervals so that it will not obstruct the flow of vehicular or pedestrian traffic, and will not create puddles in the paved areas.

In accordance with Section 3.3.4, the Board may require from any applicant, after consultation with the Director of Public Works, security satisfactory to the Board to insure the maintenance of all storm water facilities such as catch basins, leaching catch basins, detention basins, swales, etc. within the site. The Board may use funds provided by such security to conduct maintenance that the applicant fails to do. The Board may adjust in its sole discretion the amount and type of financial security such that it is satisfied that the amount is sufficient to provide for the future maintenance needs.

6. **Utility Service.** Electric, telephone, cable TV and other such lines and equipment shall be underground. The proposed method of sanitary sewage disposal and solid waste disposal from all buildings shall be indicated.
7. **Advertising Features.** The size, location, design, color, texture, lighting and materials of all permanent signs and outdoor advertising structures or features shall not detract from the use and enjoyment of proposed buildings and structures and the surrounding properties. Advertising features are subject to the provisions of Section 6.2 of the Zoning Bylaw.

8. **Special Features.** Exposed storage areas, exposed machinery installations, service areas, truck loading areas, utility buildings and structures, and similar accessory areas and structures shall be subject to such setbacks, screen plantings or other screening methods as shall reasonably be required to prevent their being incongruous with the existing or contemplated environment and the surrounding properties.
9. **Safety.** With respect to personal safety, all open and enclosed spaces shall be designed to facilitate building evacuation and maximize accessibility by fire, police, and other emergency personnel and equipment. Insofar as practicable, all exterior spaces and interior public and semi-public spaces shall be so designed as to minimize the fear and probability of personal harm or injury by increasing the potential surveillance by neighboring residents and passersby of any accident or attempted criminal act.
10. **Heritage.** With respect to Arlington's heritage, removal or disruption of historic, traditional or significant uses, structures, or architectural elements shall be minimized insofar as practicable, whether these exist on the site or on adjacent properties.
11. **Microclimate.** With respect to the localized climatic characteristics of a given area, any development which proposes new structures, new hard-surface ground coverage, or the installation of machinery which emits heat, vapor, or fumes, shall endeavor to minimize, insofar as practicable, any adverse impact on light, air, and water resources, or on noise and temperature levels of the immediate environment.
12. **Sustainable Building and Site Design.** Projects are encouraged to incorporate best practices related to sustainable sites, water efficiency, energy and atmosphere, materials and resources, and indoor environmental quality. Applicants must submit a current Green Building Council Leadership in Energy and Environmental Design (LEED) checklist, appropriate to the type of development, annotated with narrative description that indicates how the LEED performance objectives will be incorporated into the project. [LEED checklists can be found at <http://www.usgbc.org/DisplayPage.aspx?CMSPageID=220b>]

In addition, projects subject to Environmental Design Review must address and meet the following Special Permit Criteria (see Section 3.3.3 of the Zoning Bylaw):

1. The use requested is listed as a special permit in the use regulations for the applicable district or is so designated elsewhere in this Bylaw.
2. The requested use is essential or desirable to the public convenience or welfare.
3. The requested use will not create undue traffic congestion or unduly impair pedestrian safety.
4. The requested use will not overload any public water, drainage or sewer system or any other municipal system to such an extent that the requested use or any developed use in the immediate area or in any other area of the Town will be unduly subjected to hazards affecting health, safety or the general welfare.
5. Any special regulations for the use as may be provided in this Bylaw are fulfilled.
6. The requested use will not impair the integrity or character of the district or adjoining districts, nor be detrimental to the health, morals, or welfare.
7. The requested use will not, by its addition to a neighborhood, cause an excess of the particular use that could be detrimental to the character of said neighborhood.

TOWN OF ARLINGTON

Dimensional and Parking Information
for Application to
The Arlington Redevelopment Board

Docket No. _____

Property Location 190 & 192-200 Massachusetts Ave

Zoning District B3

Owner: 192-200 Massachusetts Ave, LLC

Address: 455 Massachusetts Ave, Arlington, MA

Present Use/Occupancy: No. of Dwelling Units:

Retail, Service, Restaurant

Uses and their gross square feet:

1-Story 9,916 SF

Proposed Use/Occupancy: No. of Dwelling Units:

Mixed-Use, 37 Apartment Units & Retail

Uses and their gross square feet:

5-Story Mixed-Use

| | Present Conditions | Proposed Conditions | Min. or Max. Required by Zoning for Proposed Use |
|--|-----------------------------------|---------------------|--|
| Lot Size | 11,134 SF | 11,134 SF | min. ---- |
| Frontage | 102.1 FT | 102.1 FT | min. 50 FT |
| Floor Area Ratio | 0.9 | 4.1 | max. 1.5 |
| Lot Coverage (%), where applicable | N/A | N/A | max. ---- |
| Lot Area per Dwelling Unit (square feet) | N/A | 301 SF | min. ---- |
| Front Yard Depth (feet) | 0 FT | 0 FT | min. 0 FT |
| Side Yard Width (feet) right side | 0.6 FT | 7.5 FT | min. 0 FT |
| left side | ---- | ---- | min. ---- |
| Rear Yard Depth (feet) | ---- | ---- | min. (H+L)/6 |
| Height | ---- | ---- | min. ---- |
| Stories | 1-STORY | 5-STORY | stories 5-STORY |
| Feet | 20 FT +/- | <60 FT | feet 60 FT |
| Open Space (% of G.F.A.) | ---- | ---- | min. ---- |
| Landscaped (square feet) | 97 SF/11,134 SF (lot area) → 0.9% | 4.8 % | (s.f.) 10% 2,360 SF ← 1,125SF/23,600SF (Res. Floor Area) |
| Usable (square feet) | 0 % | 9.0 % | (s.f.) 20% 4,720 SF ← 23,600SF (Res. Floor Area) X 0.10 = 2,360 SF |
| Parking Spaces (No.) | None | 15 | min. 45 ← 23,600SF (Res. Floor Area) X 0.20 = 4,720SF |
| Parking Area Setbacks (feet), where applicable | 0 FT | N/A | min. N/A ← 2,140 (deck space)/ 23,600SF (Res. Floor Area) |
| Loading Spaces (No.) | N/A | N/A | min. N/A |
| Type of Construction | NEW CONSTRUCTION | | |
| Distance to Nearest Building | 12.0 FT | 19.2 FT | min. |

TOWN OF ARLINGTON REDEVELOPMENT BOARD

Petition for Special Permit under Environmental Design Review (see Section 3.4 of the Arlington Zoning Bylaw for Applicability)

For projects subject to Environmental Design Review, (see section 3.4), please submit a statement that completely describes your proposal, and addresses each of the following standards.

1. **Preservation of Landscape.** The landscape shall be preserved in its natural state, insofar as practicable, by minimizing tree and soil removal, and any grade changes shall be in keeping with the general appearance of neighboring developed areas.

There will be landscaped areas on site as provided with respect to Applicant's plans.

2. **Relation of Buildings to Environment.** Proposed development shall be related harmoniously to the terrain and to the use, scale, and architecture of existing buildings in the vicinity that have functional or visual relationship to the proposed buildings. The Arlington Redevelopment Board may require a modification in massing so as to reduce the effect of shadows on abutting property in an RU, RI or R2 district or on public open space.

The proposed building would be related harmoniously to the terrain and to the use, scale, and architecture of the existing buildings in the vicinity that have functional or visual relationship to the proposed buildings as can be seen from the Applicant's plans along with the statements contained in the Environmental Impact Statement.

3. **Open Space.** All open space (landscaped and usable) shall be so designed as to add to the visual amenities of the vicinity by maximizing its visibility for persons passing the site or overlooking it from nearby properties. The location and configuration of usable open space shall be so designed as to encourage social interaction, maximize its utility, and facilitate maintenance.

There is essentially no open space at the site and the Applicant's plans would create some open space as set forth within the substance of the Environmental Impact Statement.

4. **Circulation.** With respect to vehicular, pedestrian and bicycle circulation, including entrances, ramps, walkways, drives, and parking, special attention shall be given to location and number of access points to the public streets (especially in relation to existing traffic controls and mass transit facilities), width of interior drives and access points, general interior circulation, separation of pedestrian and vehicular traffic, access to community facilities, and arrangement of vehicle parking and bicycle parking areas, including bicycle parking spaces required by Section 8.13 that are safe and convenient and, insofar as practicable, do not detract from the use and enjoyment of proposed buildings and structures and the neighboring properties.

The circulation is as shown on the Applicant's plans along with the bicycle parking areas and the vehicular parking spaces.

The parking areas are also shown on the plans and are mentioned in the Environmental Impact Statement. The Applicant proposes fifteen (15) parking spaces and also proposes an electric charging station, potential parking for a Zipcar vehicle which would benefit not only residents within the building but other residents in the Town who would want to use a Zipcar or a similar type of vehicle and bicycle parking both covered and uncovered as shown on the Applicant's plans.

5. **Surface Water Drainage.** Special attention shall be given to proper site surface drainage so that removal of surface waters will not adversely affect neighboring properties or the public storm drainage system. Available Best Management Practices for the site should be employed and include site planning to minimize impervious surface and reduce clearing and re-grading. Best Management Practices may include erosion control and storm water treatment by means of swales, filters, plantings, roof gardens, native vegetation, and leaching catch basins. Storm water should be treated at least minimally on the development site; that which cannot be handled on site shall be removed from all roofs, canopies, paved and pooling areas and carried away in an underground drainage system. Surface water in all paved areas shall be collected at intervals so that it will not obstruct the flow of vehicular or pedestrian traffic and will not create puddles in the paved areas.

In accordance with Section 3.3.4, the Board may require from any applicant, after consultation with the Director of Public Works, security satisfactory to the Board to insure the maintenance of all storm water facilities such as catch basins, leaching catch basins, detention basins, swales, etc. within the site. The Board may use funds provided by such security to conduct maintenance that the applicant fails to do. The Board may adjust in its sole discretion the amount and type of financial security such that it is satisfied that the amount is sufficient to provide for the future maintenance needs.

The Applicant's engineer and architect have provided information with respect to service water drainage in the report of Allen & Major Associates, Inc. which is part of the plans being submitted to the ARB.

Allen & Major Associates, Inc. reports indicates as follows:

"The project proposes to demolish a portion of the existing structure to construct a five story 9,764 square foot mixed-use building with apartment and retail uses.

There are fifteen (15) parking spaces on the first level.

The storm water management system will be improved with a new drainage pipe connected. The quantity of storm water runoff will be reduced with the installation of landscaped areas on site.

The proposed work will result in approximately 701 feet of impervious material being replaced with landscaped areas."

The balance of the Allen & Major Associates, Inc. report spells out the details with respect the Applicant's proposal regarding surface water drainage.

6. **Utility Service.** Electric, telephone, cable TV and other such lines and equipment shall be underground. The proposed method of sanitary sewage disposal and solid waste disposal from all buildings shall be indicated.

All utility service, electric, telephone, cable TV and other such lines and equipment will be underground, and the proposed method of sanitary sewage disposal and solid waste disposal are as indicated within the substance of the Applicant's plan.

7. **Advertising Features.** The size, location, design, color, texture, lighting and materials of all permanent signs and outdoor advertising structures or features shall not detract from the use and enjoyment of proposed buildings and structures and the surrounding properties. Advertising features are subject to the provisions of Section 6.2 of the Zoning Bylaw.

There are currently no plans for advertising features and once a determination has been made with respect to advertising it is expected any such issues could be handled administratively

through the Planning Department.

8. **Special Features.** Exposed storage areas, exposed machinery installations, service areas, truck loading areas, utility buildings and structures, and similar accessory areas and structures shall be subject to such setbacks, screen plantings or other screening methods as shall reasonably be required to prevent their being incongruous with the existing or contemplated environment and the surrounding properties.

All such areas are buffered and screened as shown on the Applicant's plans.

9. **Safety.** With respect to personal safety, all open and enclosed spaces shall be designed to facilitate building evacuation and maximize accessibility by fire, police, and other emergency personnel and equipment. Insofar as practicable, all exterior spaces and interior public and semi-public spaces shall be so designed as to minimize the fear and probability of personal harm or injury by increasing the potential surveillance by neighboring residents and passersby of any accident or attempted criminal act.

All open and enclosed spaces will be designated to facilitate building evacuation and maximize accessibility by fire, police and other emergency personnel and equipment as required.

10. **Heritage.** With respect to Arlington's heritage, removal, or disruption of historic, traditional, or significant uses, structures, or architectural elements shall be minimized insofar as practicable, whether these exist on the site or on adjacent properties.

There will be no removal of historical, traditional, or significant uses, structures, or architectural elements or in any case, if there is any impact on any such matters efforts shall be made to minimize as so far as practicable any effect on those matters, whether on site or on adjacent properties.

11. **Microclimate.** With respect to the localized climatic characteristics of a given area, any development which proposes new structures, new hard-surface ground coverage, or the installation of machinery which emits heat, vapor, or fumes, shall endeavor to minimize, insofar as practicable, any adverse impact on light, air, and water resources, or on noise and temperature levels of the immediate environment.

The Applicant does not anticipate installation of machinery which will emit unreasonable heat, vapor or fumes or have any adverse impact on light, air, and water resources, or on noise and temperature levels of the immediate environment.

12. **Sustainable Building and Site Design.** Projects are encouraged to incorporate best practices related to sustainable sites, water efficiency, energy and atmosphere, materials and resources, and indoor environmental quality. Applicants must submit a current Green Building Council Leadership in Energy and Environmental Design (LEED) checklist, appropriate to the type of development, annotated with narrative description that indicates how the LEED performance objectives will be incorporated into the project.
[LEED checklists can be found at <http://www.usgbc.org/DisplayPage.aspx?CMSPageID=220b>]

The Applicant has submitted a LEED checklist in connection with this matter.

In addition, projects subject to Environmental Design Review must address and meet the following Special Permit Criteria (see Section 3.3.3 of the Zoning Bylaw)

1. The use requested is listed in the Table of Use Regulations as a special permit in the district for which application is made or is so designated elsewhere in this Bylaw.

The use is listed as a Special Permit in the Use Regulations in the B3 District.

2. The requested use is essential or desirable to the public convenience or welfare.

The requested use is essential or desirable to the public convenience or welfare because the use would provide additional residential apartments in the Town which objectives are encouraged by the substance of the master plan and will also provide retail and/or restaurant space on the first level of the building which comports with the intent of the mixed-use portion of the Bylaw.

3. The requested use will not create undue traffic congestion, or unduly impair pedestrian safety.

It is not anticipated that there will be undue traffic congestion, or an impairment of pedestrian safety with respect to the proposal as indicated in the MDM Transportation Report.

4. The requested use will not overload any public water, drainage or sewer system or any other municipal system to such an extent that the requested use or any developed use in the immediate area or in any other area of the Town will be unduly subjected to hazards affecting health, safety, or the general welfare.]

The Applicant is providing 15 parking spaces and intends to contact a Zipcar type company for the purpose of determining whether a Zipcar vehicle could be located at the property which would benefit both residents of the building and other residents in the Town who would care to use a Zipcar type vehicle. There is also ample bicycle parking, both covered and uncovered, provided in the proposal for those individuals who do not own a car and those individuals would have nearby access to the bicycle path and would also have direct access to the MBTA and as is mentioned in the Environmental Impact Statement, many individuals now use Uber or Lyft for the purpose of satisfying their transportation needs.

5. Any special regulations for the use, set forth in Article 11, are fulfilled.

Any special regulations for the use, set forth in Article 11, are fulfilled.

6. The requested use will not impair the integrity or character of the district or adjoining districts, nor be detrimental to the health, morals, or welfare.

The substance of the Applicant's plans indicate that there will be no impairment of the integrity or character of the district or adjoining districts, nor be detrimental to the health, morals, or welfare

7. The requested use will not, by its addition to a neighborhood, cause an excess of that particular use that could be detrimental to the character of said neighborhood.

The requested use as mentioned in item No. 7 will not by its addition to the neighborhood in which the property is located cause an excess of that particular use that could be detrimental to the character of the neighborhood but rather will compliment other uses in the neighborhood and, as mentioned previously, provide additional residential apartment units and a retail and/or restaurant use, all of which will be in line with other uses in the neighborhood of the property.

190 & 192-200 Massachusetts Avenue

Arlington, MA

Environmental Impact Statement

The property located at 190 & 192-200 Massachusetts Avenue real estate is located in a B3 zone as defined with the Zoning Bylaw for the Town.

The Districts and Purposes provisions of the Zoning Bylaw in Section 5.5.1 further subsection D, provide the following with respect to a B3 zoning district:

"B3: Village Business District. The Village Business District's predominant uses include retail, service, and office establishments catering to both convenience and comparison-goods shoppers and oriented to pedestrian traffic. Mixed-use structures are allowed and encouraged in this district. The three locations include portions of the principal business areas of Arlington: Lake Street, Arlington Center, and Arlington Heights. Businesses which consume large amounts of land and activities which interrupt pedestrian circulation and shopping patterns or otherwise interfere with the intent of this bylaw are discouraged."

A mixed-use development is allowed in a B3 zone as contained in the 5-26 District & Uses section of the Zoning Bylaw.

The minimum lot frontage required is 50 feet, the front yard requirement is 0 and the side yard requirement is also 0.

The rear yard requirement is (H+L) 6. The landscaped open space and useable open space requirements are contained in Section 5-28 with a requirement of 10% for landscaped open space and Section 5.3.21 would be applicable with respect to a determination with regard to useable open space. See Dimensional form submitted by the Applicant in connection with its plan.

An apartment building is allowed in a B3 zoning district in accordance with Section 5-28 of the Zoning Bylaw.

Five (5) stories are allowed in the B3 zone in accordance with Section 5-29 and the Applicant's Dimensional form indicates that the height would be five (5) stories. There is also a limit of 60 feet in height for an apartment building in a B3 zone and the Applicant's plans will comply with that requirement.

The maximum floor area ratio or FAR is 1.50 in the B3 zone and the Applicant's plans do request an increase in the FAR premised upon the fact that the mixed-use bylaw does apply to its development proposal.

The Applicant's plans propose a combination of units with respect to its development i.e., retail/commercial as well as thirty-seven (37) residential apartment units.

Commercial/restaurant/retail space would be provided for on the first floor facing Massachusetts Avenue with podium parking in the back of the building consisting of fifteen (15) parking spaces.

Access to the site will be by way of a full access/egress driveway along Chandler Street as shown on the Allen & Major Associates, Inc. site layout.

Chandler Street is one way street in a northerly direction with traffic traversing Chandler Street heading up Chandler Street towards Massachusetts Avenue with access to Chandler Street being available off of Lake Street and the Brooks Ave intersection as well as Egerton Road.

The Applicant intends to have its traffic consultant participate in the Zoom Hearing for the purpose of providing information with respect to existing and proposed traffic conditions relating to Chandler Street as well as Massachusetts Avenue with respect to the volume of traffic coming from Chandler Street on to Massachusetts Avenue and the effect of the development on the traffic.

The apartment mix would consist of ten studios, twenty-three one-bedroom units and four two-bedroom units.

There would be an outdoor roof deck on the fourth story of the building to provide an amenity for the residential tenants.

The current building essentially has no open space, and the Applicant has attempted to create open space with respect to its plans and the roof deck would be an area that would provide useable open space.

The building is surrounded by three (3) streets and an alleyway and the building footprint takes up nearly the entire parcel with the result that there would be no extra space for other outdoor amenities.

Eight (8) of the residential units will be designated as affordable and the unit mix for those units includes: (1) two-bedroom unit, 4 (1) one-bedroom units and 3 studio units.

The Applicant's plans provide for short-term bicycle parking as well as indoor long-term secure bicycle parking.

There will be an electric charging station at the property and approaches will be made to a "Zipcar" company or a Zipcar like company to have a Zipcar or similar type car located at the property as the Applicant feels this would be an amenity for the building as well as other residents in the neighborhood of the property who would like to have use of a Zipcar type vehicle.

As can be seen from the Applicant's Dimensional form fifteen (15) parking spaces are being proposed and the Zoning Bylaw would require forty-five (45) parking spaces.

The Applicant's plans do not contemplate a satisfaction of the parking requirement contained in the Bylaw but would instead propose that the Zipcar approach, bicycle parking and the electric charging station to be provided at the property could be used for the purpose of gaining a reduction in the parking requirement as set forth within the provisions of Section 6.1.5, further subsection C of the Zoning Bylaw.

It is clear that many individuals now use Uber and Lyft for transportation purposes with the result that the Applicant suggests that the parking requirement can be modified because some individuals may not even own a motor vehicle while residing in the building and particularly so in light of the fact that the property is in close proximity to MBTA access areas.

In addition, it is equally clear that most of the restaurants and other uses in the area also do not satisfy the parking requirements contained in the Zoning Bylaw.

It would be impossible for most of the uses in the neighborhood of the property to satisfy the parking requirements as there is no land available for that purpose.

The Applicant has, through its architect, Market Square Architects PLLC, conducted solar studies as well as massing studies with respect to the property and the effect of the proposed construction on surrounding properties and buildings as can be seen from the Market Square Architects PLLC's solar comments. The proposed structure would only cast shadows on existing structures in the R2 zone during the evenings of winter months when long shadows are already cast by existing structures and foliage.

However, the Applicant will supplement the shadow study provided by spreading the study out over different times of the day and a representative of Market Square Architect PLLC will discuss how the shadow study was prepared and how the proposed development will not adversely impact neighborhood properties.

The studies indicate that properties on Cleveland Street are located farther from the boundary which triggers the height buffer contained in the Zoning Bylaw as shown on the Allen & Major Associates, Inc. diagram on FIG-01 with the result that no existing structure in an R2 zone is close enough to be impacted by a shadow emanating from the proposed building.

The massing study indicates that the proposed building exaggerates the upper story setback, minimizing the impact of the taller structure and creating a pedestrian friendly streetscape along Massachusetts Avenue which harmonizes with the massing of the adjacent existing structures i.e., Capital Theater, 2054 Massachusetts Avenue, and the Leader Bank Corporate Offices at 180 Massachusetts Avenue.

The massing study also concludes that utilizing the taller maximum height allowed would have a minimal impact on the nearby R2 lots.

All utilities will be located underground.

The storm water management report of Allen & Major Associates, Inc. suggests that the quantity of storm water runoff will be reduced with the installation of landscaped areas on site and that the steps taken to create the landscaped area will result in approximately 725 of impervious material being replaced with landscaped areas.

The table contained in the October 23, 2020 Allen & Major Associates, Inc. report identified as study point 1 i.e., flow to municipal system indicates that Article 15 of the Town Stormwater Mitigation Bylaw will not apply as the proposed development will introduce a reduction in impervious area. The report further indicates that the proposed landscaped areas for the project will reduce the runoff rates for all design storms by reducing the rate and volume of stormwater runoff from the site with the result that there will be a positive impact on the stormwater management system.

It is the position of the Applicant that the proposed building will not result in an increase in vehicular activity compared to the existing historic uses at the site.

The Transportation Management Report of MDM Transportation Consultants, Inc. dated September 21, 2020 indicates that implementation of access improvements, proposed pedestrian improvements, and a TDM will establish a framework for minimizing site traffic impacts and encourage non-motorized travel modes and pedestrian accommodations and will be compatible with the other projects in the area.

The Applicant has submitted a Traffic Study by MDM Transportation Consultants, Inc. dated December 21, 2020 which provides in part as follows:

- “Safety Characteristics. A review of the crash data indicated that no immediate safety countermeasures are warranted based on the crash history at the study intersections. Likewise, available sight lines at the site driveway intersection with Chandler Street will exceed the sight line requirements published by AASHTO.”
- “Public Transportation. The project is in close proximity to an extensive sidewalk system, three nearby multi-use paths (Minuteman Bikeway, Alewife Greenway Bike Path, and Alewife Linear Path), adjacent MBTA bus routes, and the nearby redline subway connections. A review of Census data for Arlington indicates alternative transportation (transit, walk, and bike) are available for use of 50% of the residents of the immediate study area (Census tract 3561).”
- “Reduced Trip Generation. Based on ITE methodology the proposed mixed-

use development is estimated to reduce peak hour trips by up to 25 vehicle trips and approximately 228 fewer vehicle trips on a weekday relative to existing/historic site uses.”

- “Qualitative Impact Assessment. the incremental traffic associated with the proposed development will result in a reduction in vehicular activity compared to the existing/historic uses; consequently, no material impact in operating conditions at the study intersections and area roadways is projected as a result of the redevelopment.”

The report is based upon the Applicant retaining approximately 1,735 + square feet of commercial space and construction of 37 residential apartments with access to the site by way of a full access/egress driveway along Chandler Street with off street parking for 15 vehicles.

While the traffic report discusses MTBA Route 79 which previously provided service between Arlington Heights and the Alewife Station *via* Massachusetts Avenue and Alewife Brook Parkway, that service has been suspended but the inclusion of information with respect to Route 79 does not change the conclusions of MDM with respect to its traffic report.

The Conclusion of MDM in the traffic study is as follows:

“In summary, access improvements, pedestrian/bicycle improvements, and TDM programs are outlined under *Recommendations and Conclusions*. These improvements will establish a framework of minimizing Site traffic impacts and encourage non-motorized travel modes and pedestrian accommodation that is compatible with other projects in the area.”

Bicycle travel will be encouraged with the Applicant's proposal and there will be secure, and weather protected indoor bicycle racks within the site containing 60 total spaces to facilitate this mode of transportation to and from the site by residents and building tenants and there will be additional short-term bicycle racks consisting of eight exterior spaces adjacent to the building as well.

A LEEDS project checklist has also been provided to the ARB in this filing.

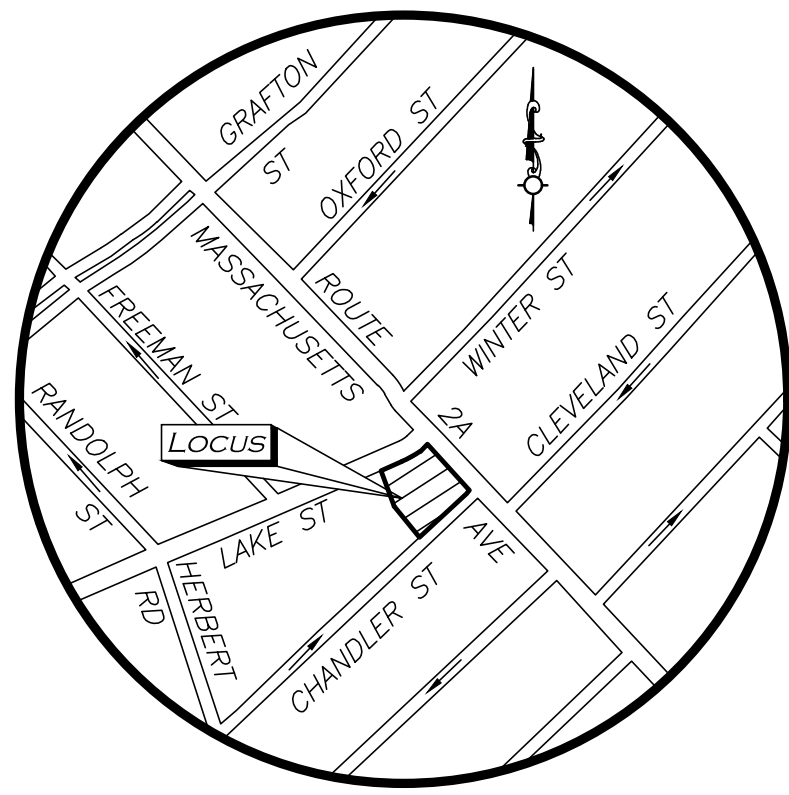
In summary, the proposed building is in harmony with other structures in the neighborhood of the property and will not have an adverse impact on nearby

properties with respect to shadow effects and massing and, on the other hand, will provide needed residential apartment units in the Town, while also providing for restaurant/retail space at the first level of the building which conforms to the intent of the mixed-use portion of the Zoning Bylaw.

The Applicant and its representatives understand that their proposal will represent a change to the neighborhood in which the property is located and, to that extent, creating a development plan for the site is challenging.

The plans submitted are a proposal to the Members of the Arlington Redevelopment Board and the Applicant fully expects comments from the Members with respect to the design aspects of the project and indeed invites those comments with a view toward coming up with a development that makes sense not only for the Town but also for the property owner who of course will be spending the money to develop the site.

The Applicant has also reached out to abutters and neighbors to the property for the purpose of alerting them to the development plans and invites comments from those individuals and entities as well.



LOCUS MAP
NOT TO SCALE

SITE DEVELOPMENT PLAN SET

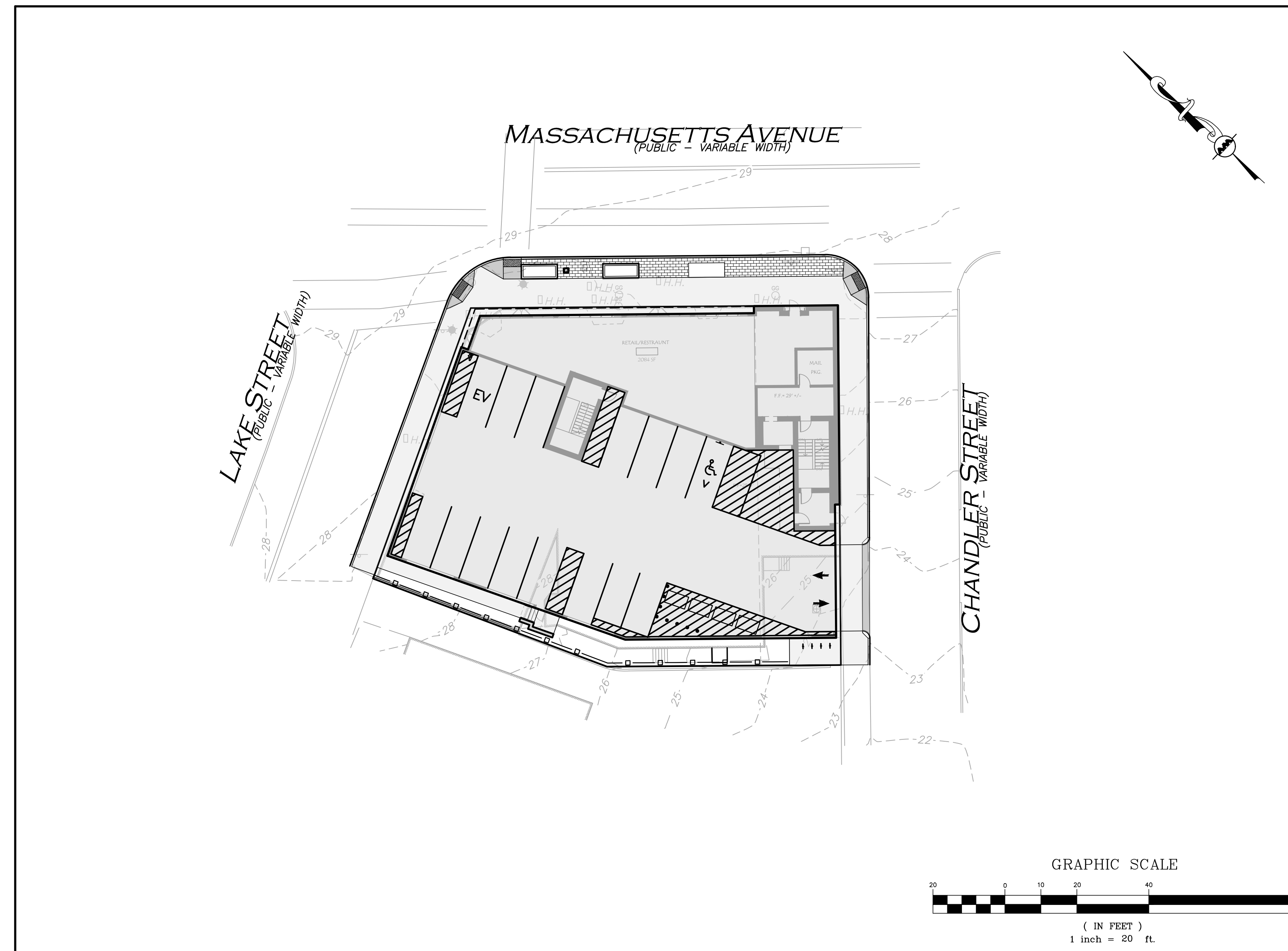
190 & 192-200 MASSACHUSETTS AVE

ARLINGTON, MA 02476

APPLICANT:
192-200 MASSACHUSETTS AVE, LLC
452 MASSACHUSETTS AVE, STE 1
ARLINGTON, MA 02474

ARCHITECT:
MARKET SQUARE ARCHITECTS
104 CONGRESS STREET, STE 203
PORTSMOUTH, NH 03801
(603) 501-0202

**CIVIL ENGINEER, LANDSCAPE ARCHITECT &
LAND SURVEYOR:**
ALLEN & MAJOR ASSOCIATES, INC.
100 COMMERCE WAY, SUITE 5
WOBBURN, MA 01801
(781) 985-6889



| LIST OF DRAWINGS | | | |
|-------------------------|-------|------------|---------|
| DRAWING TITLE | SHEET | ISSUED | REVISED |
| EXISTING CONDITIONS | V-101 | 10/23/2020 | - |
| SITE PREPARATION PLAN | C-101 | 03/10/2021 | - |
| LAYOUT & MATERIALS PLAN | C-102 | 03/10/2021 | - |
| GRADING & DRAINAGE PLAN | C-103 | 03/10/2021 | - |
| UTILITIES PLAN | C-104 | 03/10/2021 | - |
| DETAILS | C-501 | 03/10/2021 | - |
| DETAILS | C-502 | 03/10/2021 | - |
| DETAILS | C-503 | 03/10/2021 | - |
| LANDSCAPE PLAN | L-101 | 03/10/2021 | - |
| LANDSCAPE DETAILS | L-501 | 03/10/2021 | - |

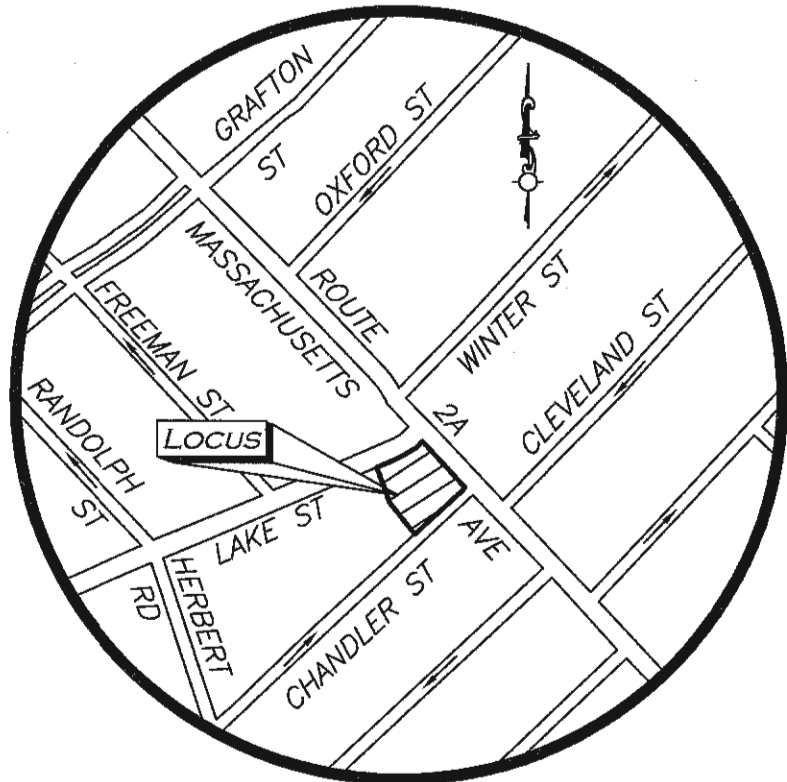


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ALLEN & MAJOR ASSOCIATES, INC.

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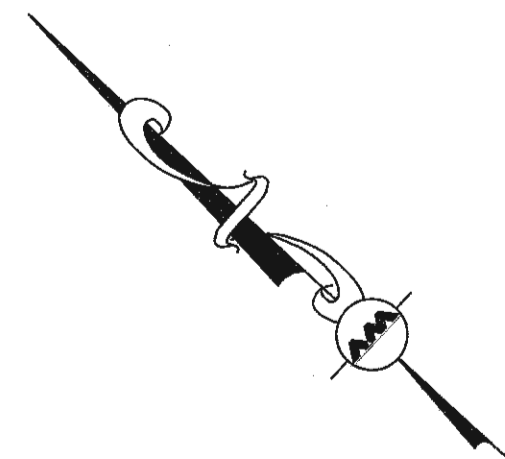
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ISSUED FOR ARB REVIEW: MARCH 10, 2021



LOCUS MAP
(NOT TO SCALE)

| BENCHMARK SUMMARY | | |
|-------------------|---|-------|
| TBM # | DESCRIPTION | ELEV. |
| 1 | COTTON GIN SPINDLE SET IN UTILITY POLE | 28.96 |
| 2 | CHISEL SQUARE ON CONCRETE BASE | 29.24 |



LEGEND

| | |
|--------------------------|--------|
| STONE BOUND (SB) | □ |
| DRAIN MANHOLE (DMH) | ⊙ |
| SEWER MANHOLE (SMH) | ⊙ |
| MISC. MANHOLE (MH) | ⊙ |
| TELEPHONE MANHOLE (TMH) | ⊙ |
| ROUND CATCH BASIN (RCB) | ⊙ |
| UTILITY POLE | ⊙ |
| UTILITY POLE W/LIGHT | ⊙ |
| UTILITY POLE W/RISE | ⊙ |
| WATER GATE | ⊙ |
| GAS GATE | ⊙ |
| HAND HOLE | ⊙ |
| TRAFFIC SIGNAL | ⊙ |
| LIGHT | ⊙ |
| TREE | ⊙ |
| SIGN | ⊙ |
| CONCRETE | ⊙ |
| BUILDING | ⊙ |
| BUILDING OVERHANG | ⊙ |
| PROPERTY LINE | ⊙ |
| CURB | ⊙ |
| CHAIN LINK FENCE | ⊙ |
| WATER LINE | ⊙ |
| SEWER LINE | ⊙ |
| DRAIN LINE | ⊙ |
| GAS LINE | ⊙ |
| ELECTRIC LINE | ⊙ |
| TELEPHONE LINE | ⊙ |
| OVERHEAD WIRES | ⊙ |
| FINISHED FLOOR ELEVATION | FFE |
| BITUMINOUS | BIT. |
| CONCRETE | CONC. |
| GRANITE | GRAN. |
| BOTTOM CENTER | (BC) |
| REINFORCED CONCRETE PIPE | RCP |
| POLYVINYL CHLORIDE PIPE | PVC |
| NOW OR FORMERLY | N/F |
| BOOK | BK. |
| PAGE | PG. |
| LAND COURT | L.C. |
| LAND COURT CASE | L.C.C. |

LOCUS REFERENCES

- TOWN OF ARLINGTON ASSESSORS MAP 6, LOT 3-1A
- L.C. BOOK 1362, PAGE 16
- L.C. BOOK 1376, PAGE 27
- L.C.C. NO. 3413N
- RECORD OWNER: FRAMINA LLC

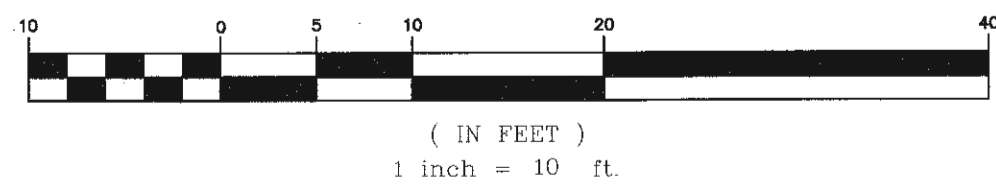
PLAN REFERENCES

- PLAN 542 OF 1986
- PLAN 320 OF 2012
- L.C.C. NO. 3413

NOTES

- NORTH ARROW IS BASED ON MASSACHUSETTS GRID COORDINATE SYSTEM (MAINLAND ZONE) (NAD 83).
- BOOK/PAGE AND PLAN REFERENCES ARE TAKEN FROM MIDDLESEX (SOUTH) REGISTRY OF DEEDS IN CAMBRIDGE, MA.
- VERTICAL DATUM IS NAVD 88 ESTABLISHED USING RTK GPS OBSERVATION.
- CONTOUR INTERVAL IS ONE FOOT (1').
- THERE ARE NO STRIPED PARKING STALLS ON THE SUBJECT PREMISES.

GRAPHIC SCALE



N:\PROJECTS\2729-02\SURVEY\DRAWINGS\CURRENT\5-2729-02-EC.DWG

WE HEREBY CERTIFY THAT THIS PLAN IS THE
RESULT OF AN ACTUAL ON THE GROUND
SURVEY PERFORMED ON AUGUST 4, 2020.

PROFESSIONAL LAND SURVEYOR FOR
ALLEN & MAJOR ASSOCIATES, INC.



| REV | DATE | DESCRIPTION |
|-----|------|-------------|
|-----|------|-------------|

APPLICANT/OWNER:
192-200 MASSACHUSETTS AVE LLC
455 MASSACHUSETTS AVENUE
SUITE 1
ARLINGTON, MA 02474

PROJECT:
190 & 192-200
MASSACHUSETTS AVENUE
ARLINGTON, MA

PROJECT NO. 2729-02 DATE: 10/22/20

SCALE: 1" = 10' DWG. NAME: 5-2729-02-EC

DRAFTED BY: AJR CHECKED BY: NIL

PREPARED BY:



ALLEN & MAJOR
ASSOCIATES, INC.

civil engineering • land surveying
environmental consulting • landscape architecture
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WOBBURN MA 01801-8501
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FAX: (781) 935-2896

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DRAWING TITLE: EXISTING CONDITIONS SHEET NO. V-101

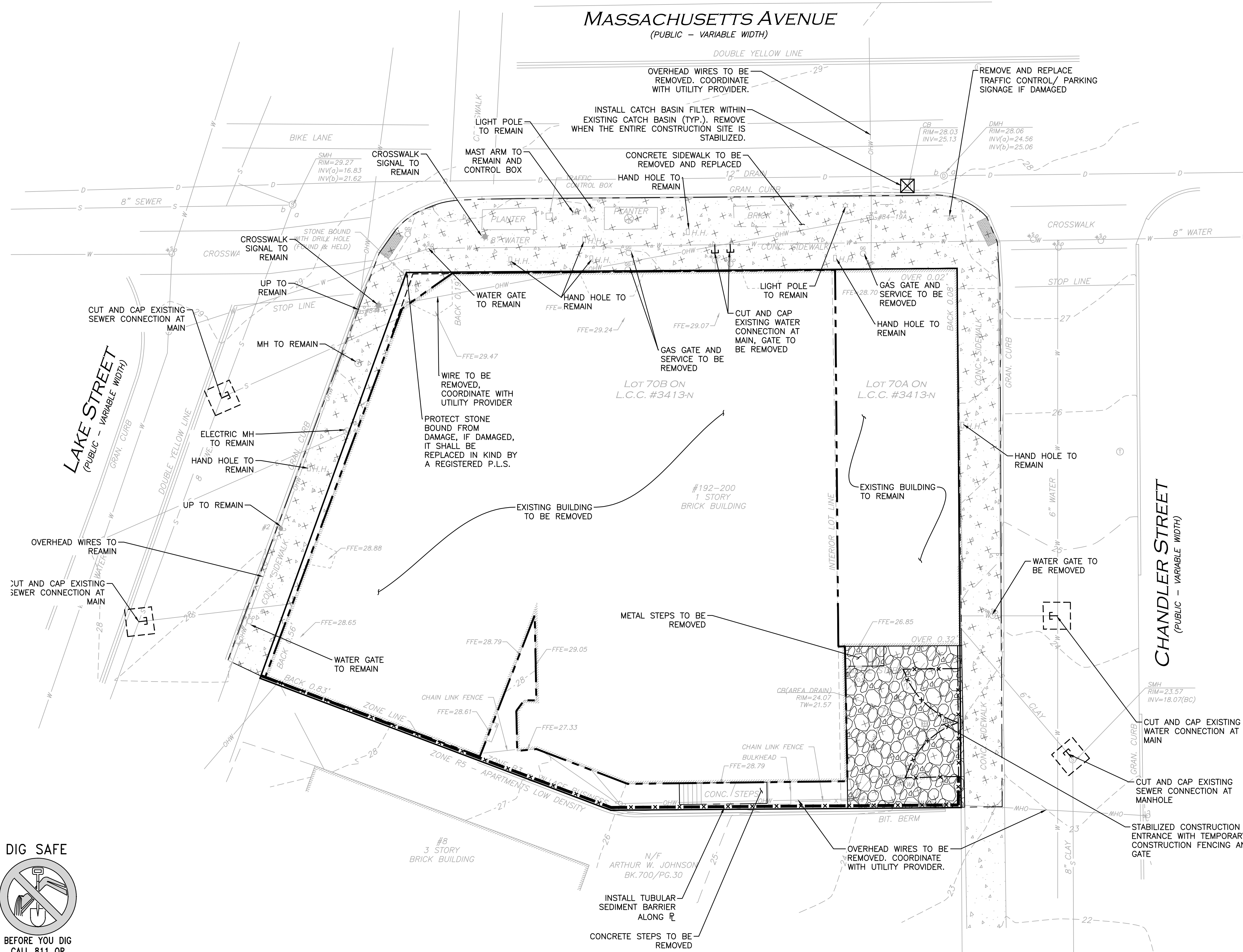
EXISTING CONDITIONS

V-101

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UTILITY STATEMENT

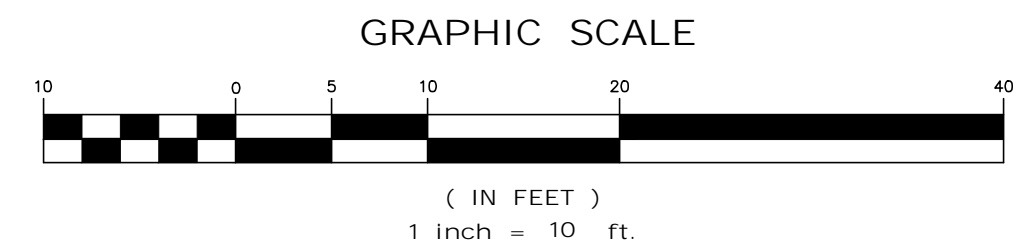
THE UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD
SURVEY INFORMATION AND EXISTING DRAWINGS. ALLEN &
MAJOR ASSOCIATES, INC. (A&M) MAKES NO GUARANTEE
THAT THE UTILITIES SHOWN HEREON COMPRISE ALL SUCH
UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED.
A&M FURTHER DOES NOT WARRANT THAT THE UTILITIES
SHOWN ARE IN THE EXACT LOCATION INDICATED. A&M HAS
NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.



LEGEND

| | |
|---------------------------|-----------|
| TUBULAR BARRIER | — X — X — |
| CATCH BASIN FILTER | ⊠ |
| STABILIZED ENTRANCE | ▨ |
| STOCKPILE/STAGING AREA | ▨ |
| LIMIT OF DISTURBANCE | --- |
| LIMIT OF 'CLEAR AND GRUB' | --- |
| BUILDING TO BE REMOVED | --- |
| PAVEMENT TO BE REMOVED | --- |
| UTILITY CUT AND CAP | E |
| TEMPORARY FENCE | — X — X — |

- SITE PREPARATION NOTES:**
1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION.
 2. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DIGSAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES AND THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
 3. ALTHOUGH CERTAIN ITEMS HAVE BEEN NOTED ON THIS DRAWING FOR DEMOLITION, NO ATTEMPT HAS BEEN MADE TO DELINEATE EACH AND EVERY ITEM THAT REQUIRES DEMOLITION FOR THE COMPLETION OF THE PROJECT. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL NECESSARY DEMOLITION WORK TO COMPLETE THE PROJECT. ALLEN & MAJOR ASSOCIATES, INC. IS NOT RESPONSIBLE FOR SITE DEMOLITION ITEMS NOT SHOWN ON THE SURVEY, OR SPECIFICALLY NOTED. THE DEMOLITION NOTES AND ARROWS ON THIS PLAN ARE TYPICAL AND DO NOT REFLECT QUANTITY.
 4. EXISTING WATER AND SEWER CONNECTIONS SHALL BE CUT AND CAPPED IN ACCORDANCE WITH THE TOWN OF ARLINGTON REQUIREMENTS.
 5. THE INFORMATION SHOWN ON THIS PLAN IS THE SOLE PROPERTY OF ALLEN & MAJOR ASSOCIATES, INC. ITS INTENDED USE IS TO PROVIDE INFORMATION. ANY ALTERATION, MISUSE, OR RECALCULATION OF INFORMATION OR DATA WITHOUT THE EXPRESSED, WRITTEN CONSENT OF ALLEN & MAJOR ASSOCIATES, INC. IS STRICTLY PROHIBITED.
 6. ALL INSTALLED CATCH BASINS AND AREA DRAINS SHALL HAVE A FILTER INSTALLED IMMEDIATELY, AND THE FILTER SHALL BE REMOVED WHEN THE ENTIRE SITE IS STABILIZED.



PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

| REV | DATE | DESCRIPTION |
|-----|------------|-----------------------|
| 1 | 03/10/2021 | ISSUED FOR ARB REVIEW |

APPLICANT/OWNER:
192-200 MASSACHUSETTS AVE, LLC
455 MASSACHUSETTS AVE, STE 1
ARLINGTON, MA 02474

PROJECT:
190 & 192-200
MASSACHUSETTS AVE
ARLINGTON, MA 02476

| | | | |
|--------------|----------|-------------|------------|
| PROJECT NO. | 2729-02 | DATE: | 10/23/2020 |
| SCALE: | 1" = 10' | DWG. NAME: | C2729-02 |
| DESIGNED BY: | ARM | CHECKED BY: | BDJ |

PREPARED BY:

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environmental consulting • landscape architecture
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| | |
|------------------------------|--------------|
| DRAWING TITLE: | SHEET No. |
| SITE PREPARATION PLAN | C-101 |

| PARKING SUMMARY TABLE | | | |
|-----------------------|---|---------------|----------------|
| USE | CALCULATION | MIN. REQUIRED | TOTAL PROPOSED |
| APARTMENT BUILDING | 1 SPACES PER EFFICIENCY UNIT 1 X 10 = 10 REQUIRED | 10 | 5 |
| | 1.15 SPACES PER 1 BED UNIT 23 X 1.15 = 27 REQUIRED | 27 | 7 |
| | 1.5 SPACES PER 2 BED UNIT 4 X 2 = 8 REQUIRED | 8 | 3 |
| | 1 PER 300 SF 2,084 SF (UNDER 3,000 SF PARKING N/A) | N/A | N/A |
| GENERAL RETAIL | | 45 | 15 * |

ADA SPACES REQUIRED:
(15-25) TOTAL PARKING SPACES PROVIDED, 1 SHALL BE THE MINIMUM ADA PARKING PROVIDED, 1 SPACES BEING VAN ACCESSIBLE.
PROVIDED 1 SPACES, 1 BEING VAN ACCESSIBLE.

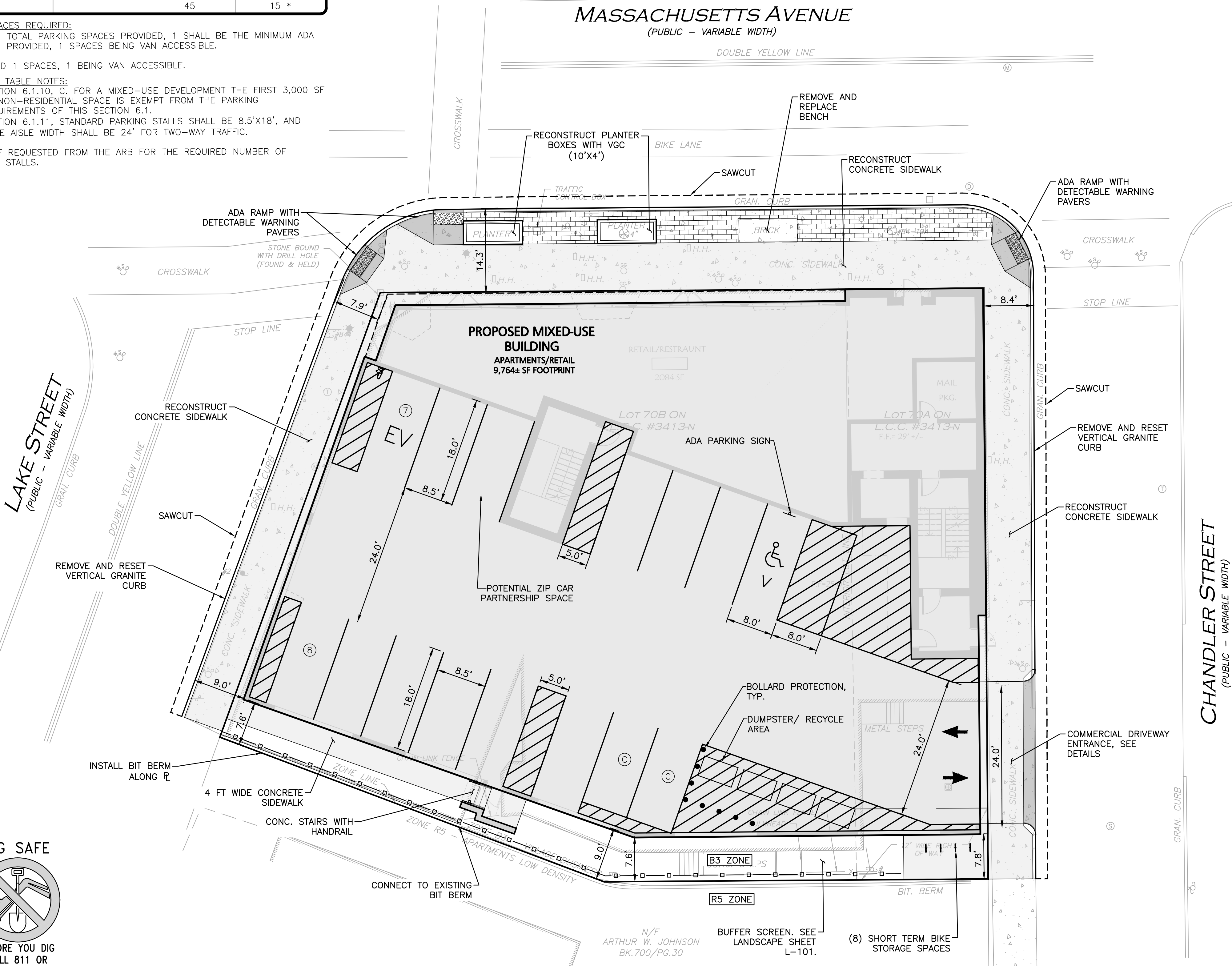
PARKING TABLE NOTES:
1. SECTION 6.1.10, C. FOR A MIXED-USE DEVELOPMENT THE FIRST 3,000 SF OF NON-RESIDENTIAL SPACE IS EXEMPT FROM THE PARKING REQUIREMENTS OF THIS SECTION 6.1.
2. SECTION 6.1.11, STANDARD PARKING STALLS SHALL BE 8.5'X18', AND DRIVE AISLE WIDTH SHALL BE 24' FOR TWO-WAY TRAFFIC.

* RELIEF REQUESTED FROM THE ARB FOR THE REQUIRED NUMBER OF PARKING STALLS.

| BICYCLE PARKING SUMMARY TABLE | | | |
|---------------------------------------|---|---------------|----------------|
| SHORT TERM BICYCLE PARKING (EXTERIOR) | | | |
| USE | CALCULATION | MIN. REQUIRED | TOTAL PROPOSED |
| APARTMENT BUILDING | 0.1 PER UNIT 37 X 0.1 = 3.7 REQUIRED | 4 | 5 |
| | 0.6 PER 1,000 SF 1.7 X 0.6 = 1.02 REQUIRED | 1 | 3 |
| RETAIL SERVICE | | 5 | 8 |
| TOTAL | | | |

| LONG TERM BICYCLE PARKING (INTERIOR) | | | |
|--------------------------------------|--|---------------|----------------|
| USE | CALCULATION | MIN. REQUIRED | TOTAL PROPOSED |
| APARTMENT BUILDING | 1.5 PER UNIT 37 X 1.5 = 55.5 REQUIRED | 56 | 59 |
| | 0.1 PER 1,000 SF 2 X 0.1 = 0.2 REQUIRED | 1 | 1 |
| RETAIL SERVICE | | 57 | 60 |
| TOTAL | | | |

BICYCLE PARKING TABLE NOTES:
1. REQUIRED NUMBER OF SPACES ARE FROM BICYCLE PARKING GUIDELINES, APPENDIX A BIKE PARKING BY-LAW.

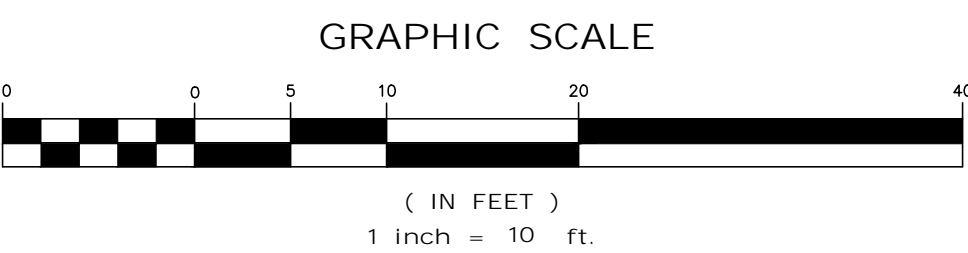


| ZONING SUMMARY TABLE B3-VILLAGE BUSINESS (MIXED-USE <=20,000SF) | | | |
|--|-----------------------|-----------------------|-----------------------|
| ITEM | REQUIRED/ ALLOWED | EXISTING | PROPOSED |
| MINIMUM LOT AREA | N/A | 11,134± SF | 11,134± SF |
| MINIMUM LOT AREA PER UNIT | N/A | N/A | 301± SF |
| MINIMUM FRONTAGE | 50 FT | 102.1± FT MASS AVE | 102.1± FT MASS AVE |
| MINIMUM FRONT YARD SETBACK | 0 FT | 0 FT | 0 FT |
| MINIMUM SIDE YARD SETBACK | 0 FT | 0.6 FT | 7.5 FT |
| MINIMUM REAR YARD SETBACK | (H+L)/6 | NO REAR | NO REAR |
| SCREENING BUFFER | 7.5 FT ⁽³⁾ | 0.6 FT | 7.5 ⁽³⁾ |
| LANDSCAPED OPEN SPACE | 10% ⁽²⁾ | 0.9% | 4.8%* |
| USABLE OPEN SPACE | 20% ⁽²⁾ | 0% | 9.0%* |
| MAXIMUM HEIGHT | 60 FT | 20± FT | <60 |
| MAXIMUM HEIGHT STORIES | 5 | 1 | 5 ⁽¹⁾ |
| FLOOR AREA RATIO | 1.50 | 0.89 | 4.1* |

ZONING TABLE NOTES:
1. SECTION 5.3.17, FOR BUILDING MORE THAN 3 STORIES IN HEIGHT, AN ADDITIONAL 7.5 FT STEP-BACK SHALL BE PROVIDED BEGINNING AT THE THIRD STORY LEVEL OR 30 FT ABOVE GRADE, WHICHEVER IS LESS. THE UPPER STORY STEP-BACK SHALL BE PROVIDED ALONG ALL BUILDING ELEVATIONS WITH STREET FRONTAGE.
2. SECTION 5.3.21, SUPPLEMENTAL REQUIREMENTS IN THE BUSINESS AND INDUSTRIAL DISTRICTS, D, FOR MIXED USES AND ANY PERMITTED RESIDENTIAL USE NOT SPECIFICALLY IDENTIFIED IN THE TABLES IN SECTION 5.5.2, THE MINIMUM OPEN SPACE REQUIREMENTS (COMPUTED FROM THE RESIDENTIAL FLOOR AREA ONLY) SHALL BE 10% LANDSCAPED AND 20% USABLE IN THE B1, B2, B2A, B3, AND B4 DISTRICTS, AND 15 PERCENT USABLE IN THE B5 DISTRICT.
3. SECTION 5.3.21, SUPPLEMENTAL REQUIREMENTS IN THE BUSINESS AND INDUSTRIAL DISTRICTS, B3 ABUTTING R5 15 FT MINIMUM BUFFER. A SOLID WALL OR WOODEN FENCE MAY BE SUBSTITUTED FOR ON-HALF THE WIDTH OF THE LANDSCAPED BUFFER.
4. SECTION 5.3.19, REDUCED HEIGHT BUFFER. RELIEF REQUESTED FROM THE ARB TO PERMIT THE HIGHER PERMITTED HEIGHT OF 60 FT AND 5 STORIES.

| LEGEND | |
|--------------------------|---------------|
| PROP. PROPERTY LINE | --- |
| SIGN | + |
| BOLLARD | • |
| BUILDING | [Hatched Box] |
| BUILDING ARCHITECTURE | [Hatched Box] |
| BUILDING INTERIOR WALLS | [Hatched Box] |
| CURB | --- |
| PARKING STRIPING | [Hatched Box] |
| ROADWAY STRIPING | --- |
| SIDEWALK | --- |
| ADA ACCESSIBLE RAMP | [Hatched Box] |
| ADA DET. WARNING SURFACE | [Hatched Box] |
| SNOW STORAGE | [Hatched Box] |
| SAW-CUT LINE | --- |
| PARKING COUNT | 10 |
| VINYL FENCE | --- |

NOTES
1. WRITTEN DIMENSIONS ON THIS PLAN TAKE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL USE CAUTION WHEN SCALING REPRODUCED PLANS. IN THE EVENT OF A CONFLICT BETWEEN THIS PLAN SET AND ANY OTHER DRAWINGS AND/OR SPECIFICATIONS OR CONDITIONS, THE ENGINEER SHALL BE NOTIFIED BY THE CONTRACTOR. ALL SITE ITEMS SHALL BE LAID OUT AND AS BUILT BY A LICENSED LAND SURVEYOR.
2. THE INFORMATION SHOWN ON THIS PLAN IS THE SOLE PROPERTY OF ALLEN & MAJOR ASSOCIATES, INC. ITS INTENDED USE IS TO PROVIDE INFORMATION. ANY ALTERATION, MISUSE, OR RECALCULATION OF INFORMATION OR DATA WITHOUT THE EXPRESSED, WRITTEN CONSENT OF ALLEN & MAJOR ASSOCIATES, INC. IS STRICTLY PROHIBITED.



PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

| REV | DATE | DESCRIPTION |
|-----|------------|-----------------------|
| 1 | 03/10/2021 | ISSUED FOR ARB REVIEW |

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455 MASSACHUSETTS AVE, STE 1
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| | |
|-------------------------|-----------|
| DRAWING TITLE: | SHEET No. |
| LAYOUT & MATERIALS PLAN | C-102 |

- THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR IT'S REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
2. CONTRACTOR IS RESPONSIBLE FOR DEMOLITION OF EXISTING STRUCTURES INCLUDING REMOVAL OF ANY EXISTING UTILITIES SERVING THE STRUCTURE. UTILITY CONNECTIONS SHOULD BE COORDINATED WITH THE MEP PRIOR TO CONSTRUCTION.
3. EXISTING DRAINAGE STRUCTURES TO REMAIN ARE TO BE INSPECTED AND REPAIRED AS NEEDED, AND EXISTING PIPES TO BE CLEANED OUT TO REMOVE ALL SILT AND DEBRIS.
4. IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITIONS OR BETTER.
5. CONTRACTOR SHALL ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ENSURE A SMOOTH FIT AND CONTINUOUS GRADE.
6. CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL NATURAL AND PAVED AREAS.
7. THE CONTRACTOR SHALL COORDINATE WITH THE ARCHITECT FOR THE FINAL LOCATIONS OF PROPOSED ROOF DRAINS. LOCATIONS ARE SHOWN HEREON FOR COORDINATION PURPOSES ONLY.
8. WRITTEN DIMENSIONS ON THIS PLAN TAKE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL USE CAUTION WHEN SCALING REPRODUCED PLANS. IN THE EVENT OF A CONFLICT BETWEEN THIS PLAN SET AND ANY OTHER DRAWINGS AND/OR SPECIFICATIONS OR CONDITIONS, THE ENGINEER SHALL BE NOTIFIED BY THE CONTRACTOR.
9. ANY DAMAGE TO PRIVATE OR PUBLIC PROPERTIES DUE TO THE CONTRACTOR'S ACTIVITIES SHALL BE REPAIRED AND RESTORED BY THE CONTRACTOR AT THEIR OWN EXPENSE.
10. ALL PROPERTY MARKERS AND STREET LINE MONUMENTS SHALL BE PROPERLY PROTECTED DURING CONSTRUCTION. ANY DAMAGE TO THESE ITEMS SHALL BE REPAIRED AND RESTORED BY A LAND SURVEYOR LICENSED IN THE COMMONWEALTH OF MASSACHUSETTS AT THE CONTRACTOR'S EXPENSE.
11. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ADDITIONAL BENCHMARK INFORMATION IF REQUIRED. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING ALL EXISTING BENCHMARKS. IF IT IS NECESSARY TO RELOCATE A BENCHMARK, IT SHALL BE RELOCATED BY A MASSACHUSETTS LAND SURVEYOR AND DONE SO AT THE CONTRACTOR'S EXPENSE.
12. ALL PERMITS AND APPROVALS NECESSARY FROM AGENCIES GOVERNING THE WORK SHALL BE OBTAINED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.
13. CONSTRUCTION DURING WET WEATHER OR WINTER CONDITIONS IS TO BE ANTICIPATED AND PROVISIONS TO ADEQUATELY ADDRESS THESE CONDITIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
14. ALL CONSTRUCTION SHALL CONFORM TO THE APPLICABLE REGULATIONS AND STANDARDS INCLUDING THE TOWN OF ARLINGTON, MADOT, MADEP, MWRA, MUTCD, AND ASHTO.
15. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR CONDITIONS AT THE SITE. THESE PLANS, PREPARED BY ALLEN & MAJOR ASSOCIATES DO NOT EXTEND TO OR INCLUDE SYSTEMS PERTAINING TO THE SAFETY OF THE CONSTRUCTION CONTRACTOR OR THEIR EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK, OR THE OWNER'S EMPLOYEES, CUSTOMERS, OR THE GENERAL PUBLIC. THE SEAL OF THE ENGINEER AS INCLUDED IN THE PLAN SET DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED INTO THESE PLANS. THE CONSTRUCTION CONTRACTOR SHALL PROVIDE THE APPROPRIATE SAFETY SYSTEMS WHICH MAY BE REQUIRED BY THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), STATE, AND LOCAL REGULATIONS.
16. THE INFORMATION SHOWN ON THIS PLAN IS THE SOLE PROPERTY OF ALLEN & MAJOR ASSOCIATES, INC. ITS INTENDED USE IS TO PROVIDE INFORMATION. ANY ALTERATION, MISUSE, OR RECALCULATION OF INFORMATION OR DATA WITHOUT THE EXPRESSED, WRITTEN CONSENT OF ALLEN & MAJOR ASSOCIATES, INC. IS STRICTLY PROHIBITED.



PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC

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| 1 | 03/10/2021 | ISSUED FOR ARB REVIEW |
| REV | DATE | DESCRIPTION |

APPLICANT\OWNER:

192-200 MASSACHUSETTS AVE, LLC
455 MASSACHUSETTS AVE, STE 1
ARLINGTON, MA 02474

PROJECT:

190 & 192-200
MASSACHUSETTS AVE
ARLINGTON, MA 02476

| | | | |
|-------------|---------|-------|------------|
| PROJECT NO. | 2729-02 | DATE: | 10/23/2020 |
|-------------|---------|-------|------------|

SCALE: 1" = 10' DWG. NAME: C2729-02

DESIGNED BY: ARM CHECKED BY: BDJ

PREPARED BY:



ALLEN & MAJOR
ASSOCIATES, INC.

civil engineering ♦ land surveying
environmental consulting ♦ landscape architecture
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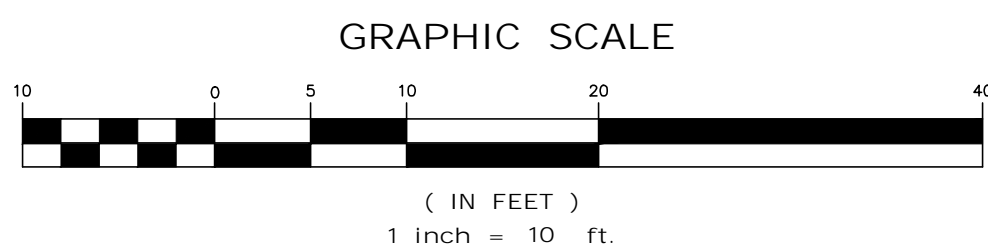
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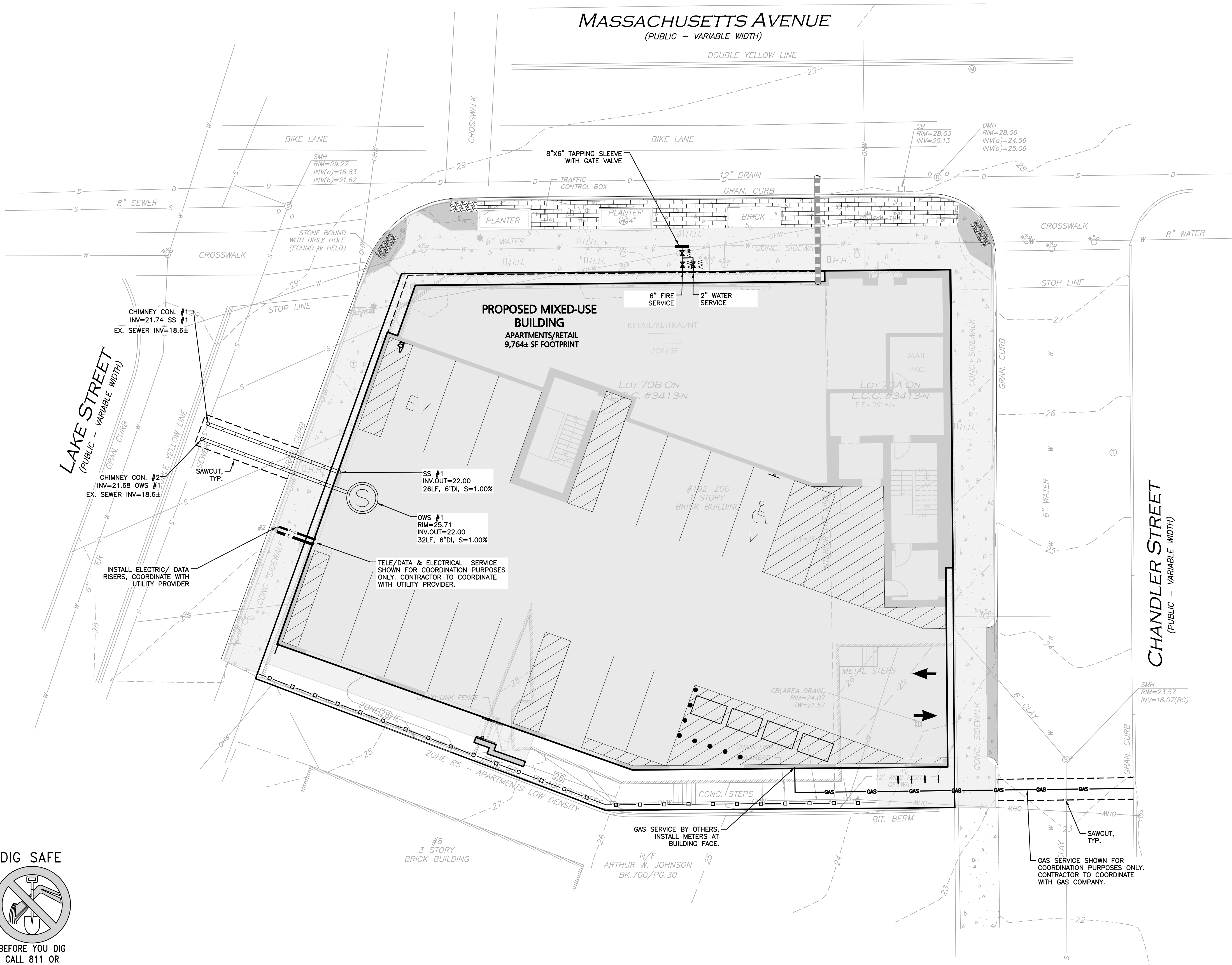
GRADING & DRAINAGE PLAN

SHEET No.

C-103

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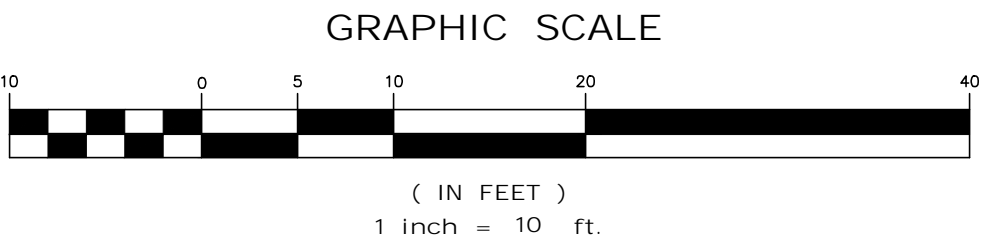




| LEGEND | |
|--------------------------|-----------|
| SEWER MANHOLE | ⊙ |
| SEWER CLEANOUT | ⊙ |
| SEWER VENT | ⊙ |
| SEWER LINE | — |
| WATER LINE | —W— |
| WATER (FIRE SERVICE) | —W-F— |
| WATER (DOMESTIC SERVICE) | —W-D— |
| WATER VALVE | WV |
| GAS LINE | —GAS— |
| GAS VALVE | GV |
| ELECTRICAL CONDUIT | —E—E— |
| TELE/CABLE CONDUIT | —T-C—T-C— |

UTILITY NOTES:

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION.
2. A MINIMUM OF 18" VERTICAL CLEARANCE SHALL BE MAINTAINED WHERE WATER SERVICES CROSS STORM DRAIN AND SEWER LINES. WATER SERVICES SHALL BE ENCASED IN CONCRETE REGARDLESS OF CLEARANCE WHEN PASSING BELOW STORM DRAIN AND SEWER LINES. ENCASEMENT SHALL EXTEND ALONG WATER SERVICE A MINIMUM DISTANCE OF EIGHT FEET CENTERED ON THE CROSSING POINT OF THE OTHER PIPE AS MEASURED NORMALLY FROM ALL POINTS ALONG THE PIPE.
3. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
4. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DIGSAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES AND THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
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ARLINGTON, MA 02474

PROJECT:
**190 & 192-200
MASSACHUSETTS AVE
ARLINGTON, MA 02476**

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| PROJECT NO. | 2729-02 | DATE: | 10/23/2020 |
|-------------|---------|-------|------------|

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|--------|----------|------------|----------|
| SCALE: | 1" = 10' | DWG. NAME: | C2729-02 |
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| | | | |
|--------------|-----|-------------|-----|
| DESIGNED BY: | ARM | CHECKED BY: | BDJ |
|--------------|-----|-------------|-----|

PREPARED BY:

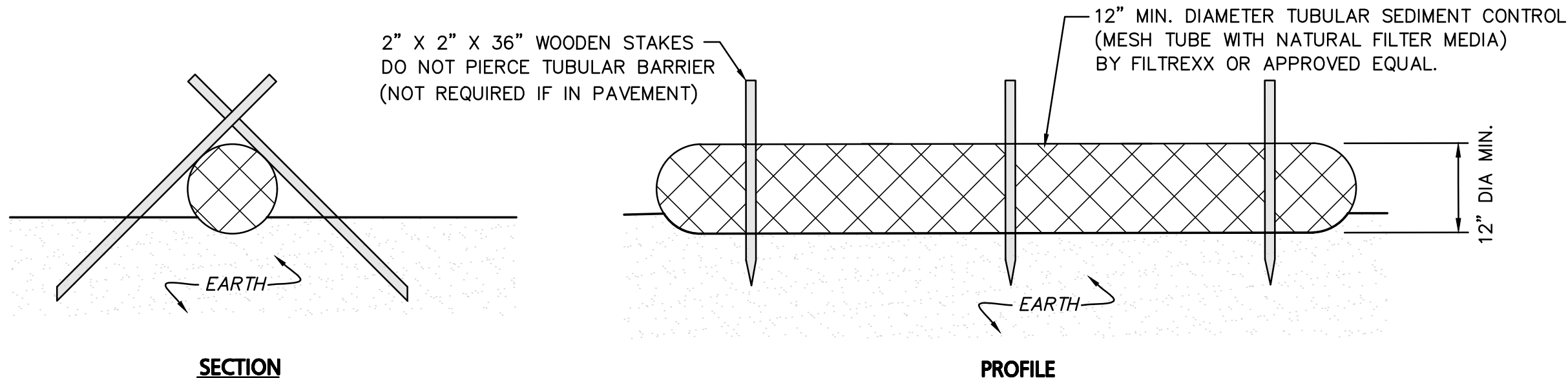
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| DRAWING TITLE: | SHEET No. |
| UTILITIES PLAN | C-104 |

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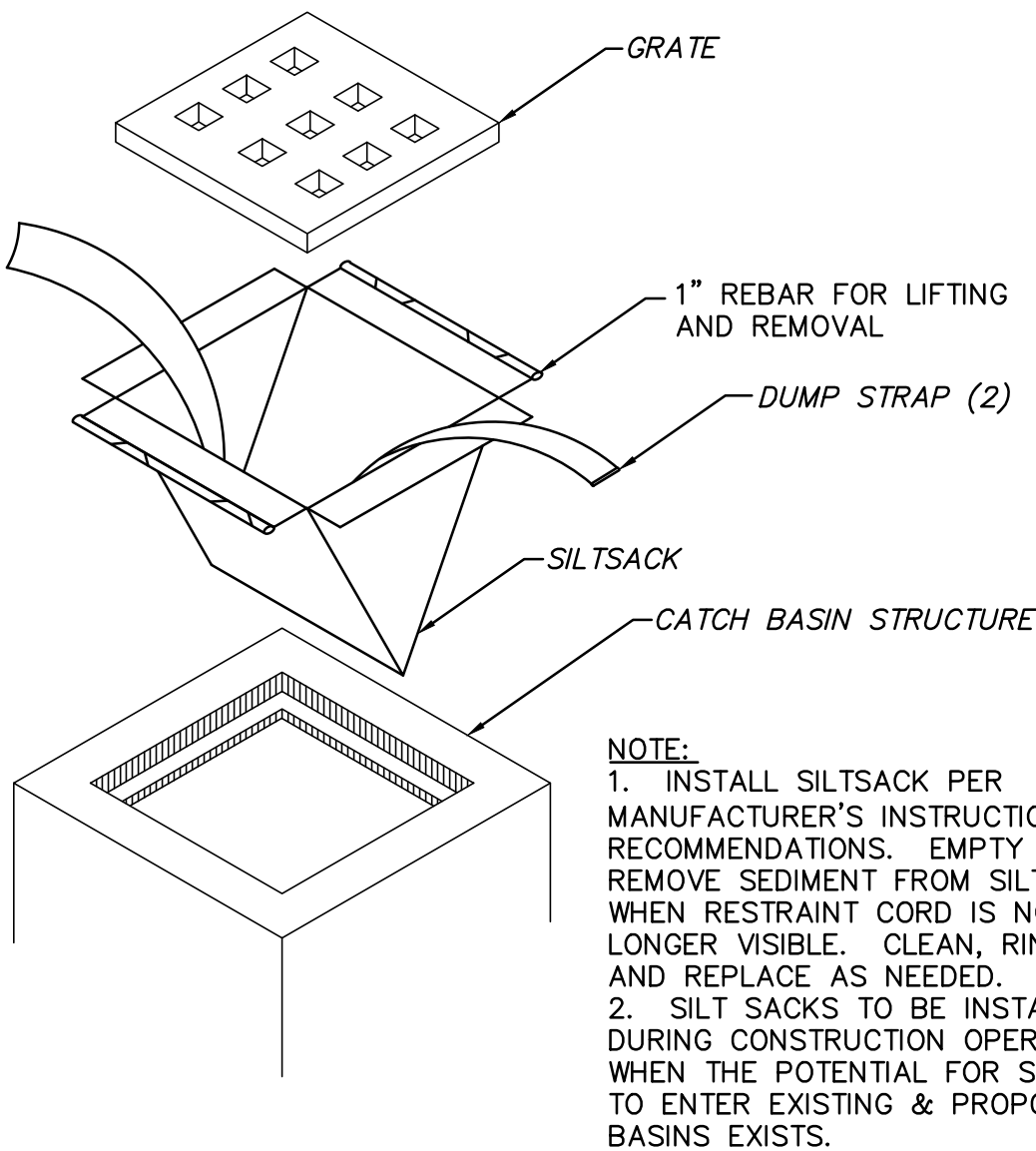
SECTION

PROFILE

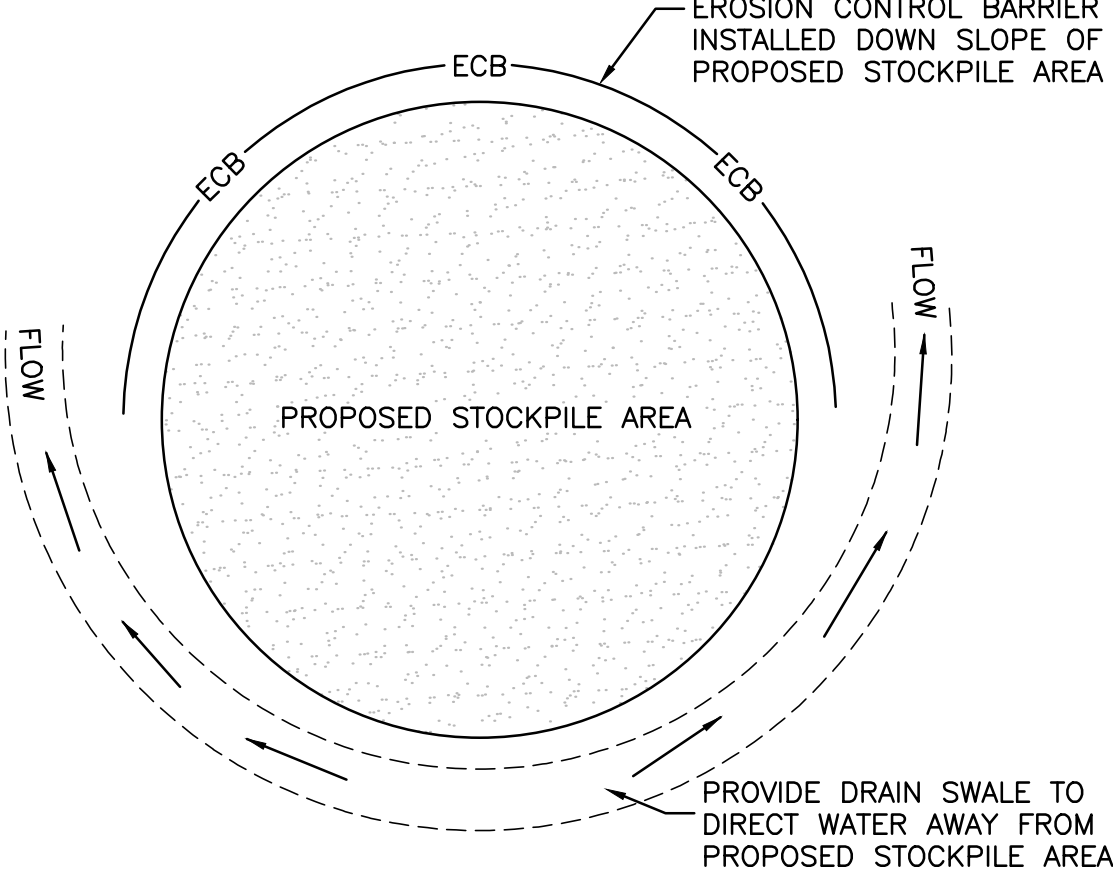
NOTES:

1. ALL MATERIALS TO MEET MANUFACTURERS SPECIFICATIONS.
2. INSTALL WOODEN STAKES IN A CRISS-CROSS PATTERN EVERY 8' ON CENTER.
3. OVERLAP TUBULAR BARRIER SEGMENTS A MINIMUM OF 12".
4. THE CONTRACTOR SHALL MAINTAIN THE TUBULAR BARRIERS IN A FUNCTIONAL CONDITION AT ALL TIMES. THE CONTROLS SHALL BE ROUTINELY INSPECTED BY THE CONTRACTOR.
5. WHERE THE TUBULAR BARRIERS REQUIRE REPAIR OR SEDIMENT REMOVAL, IT WILL BE COMPLETED BY THE CONTRACTOR AT NO ADDITIONAL COST.
6. AT A MINIMUM, THE CONTRACTOR SHALL REMOVE SEDIMENTS COLLECTED AT THE BASE WHEN THEY REACH 1/3 THE EXPOSED HEIGHT OF THE BARRIER.

TUBULAR SEDIMENT BARRIER
NOT TO SCALE



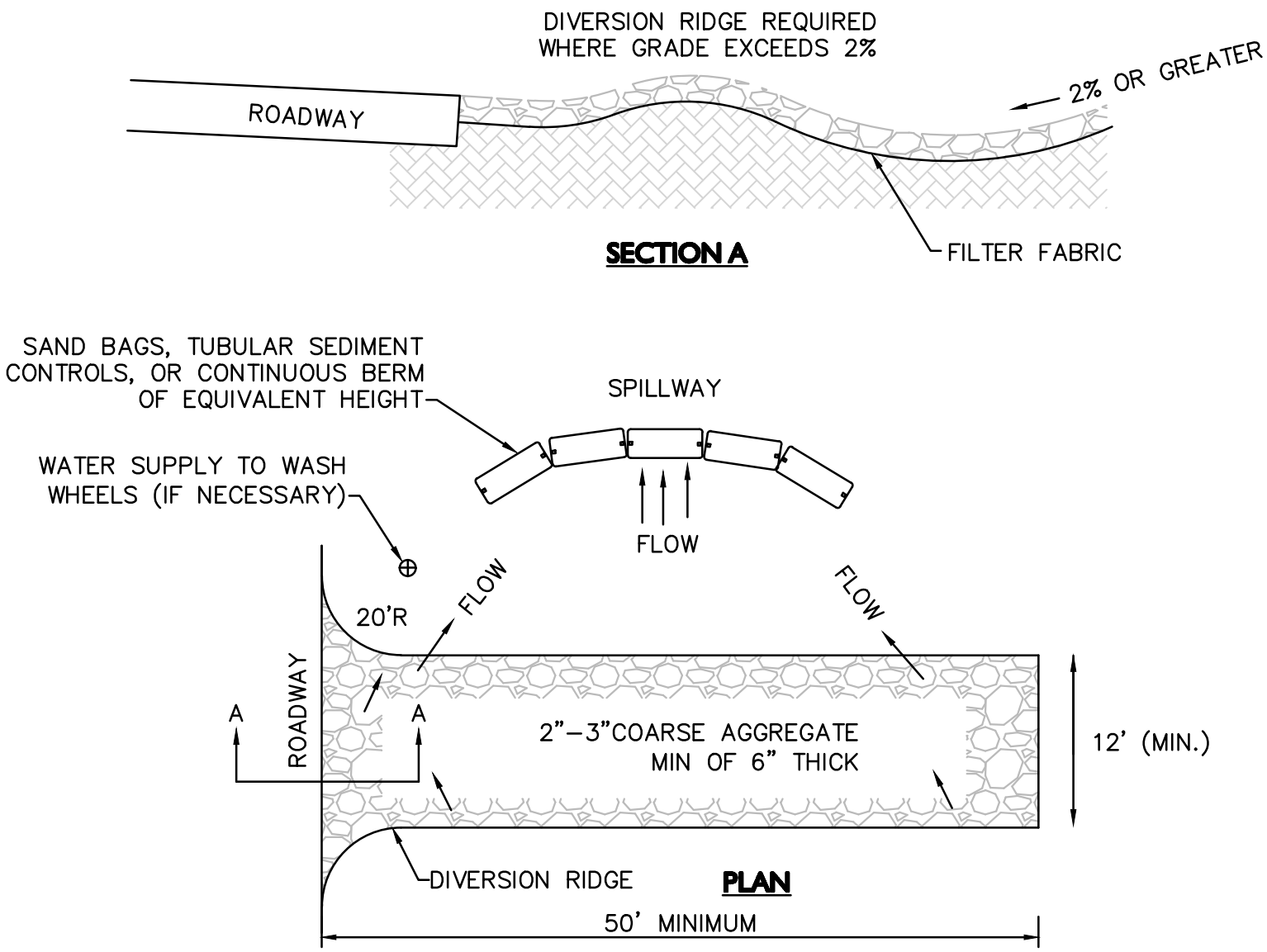
SILTSACK INLET DETAIL
NOT TO SCALE



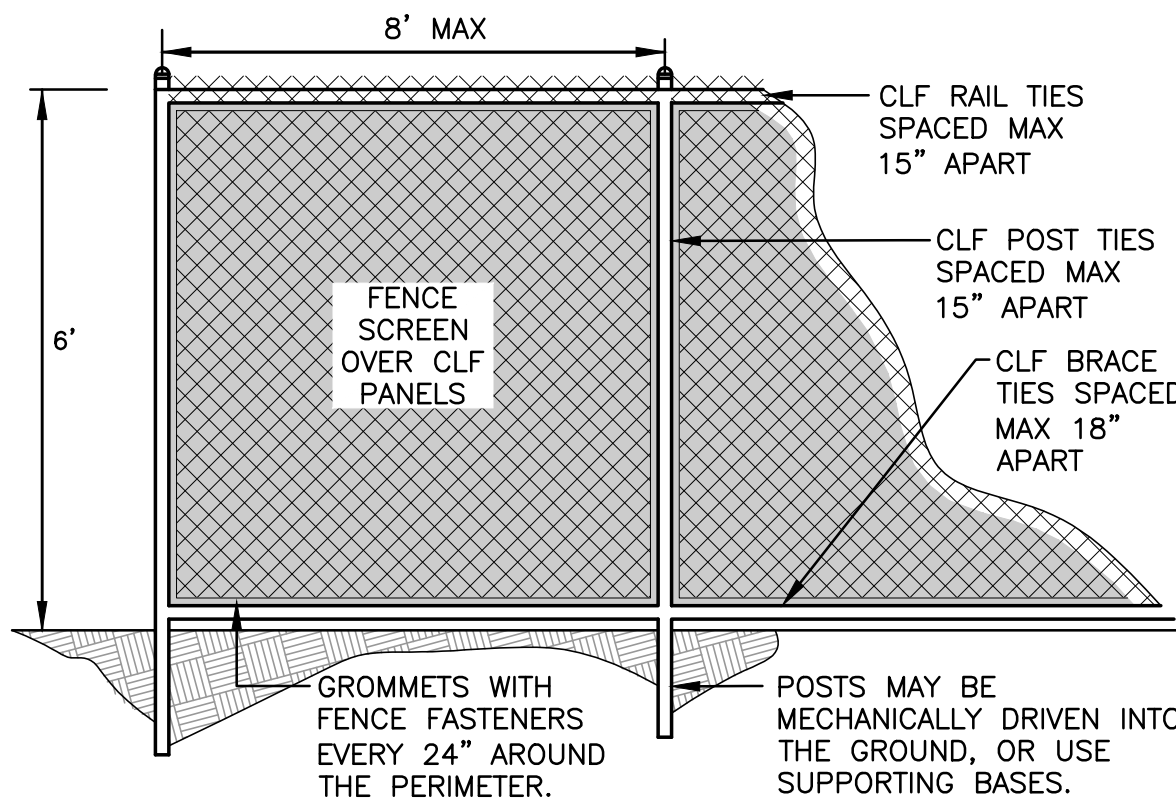
NOTES:

1. SOIL AND FILL STOCKPILES EXPECTED TO REMAIN IN PLACE FOR LESS THAN 90 DAYS SHALL BE COVERED WITH STRAW AND MULCH (AT 100LBS/1,000 SF), OR WITH AN ANCHORED TARP WITHIN 7 DAYS OR PRIOR TO ANY RAINFALL.
2. SOIL AND FILL STOCKPILES EXPECTED TO REMAIN IN PLACE FOR 90 DAYS OR MORE SHALL BE SEEDED WITH WINTER RYE (FOR FALL SEEDING AT 1LB/1,000 SF) OR OATS (FOR SUMMER SEEDING AT 2LB/1,000 SF) AND THEN COVERED WITH STRAW MULCH (AT 100LB/1,000 SF) OR AN ANCHORED TARP WITHIN 7 DAYS OR PRIOR TO ANY RAINFALL.

STOCKPILE PROTECTION DETAIL
NOT TO SCALE



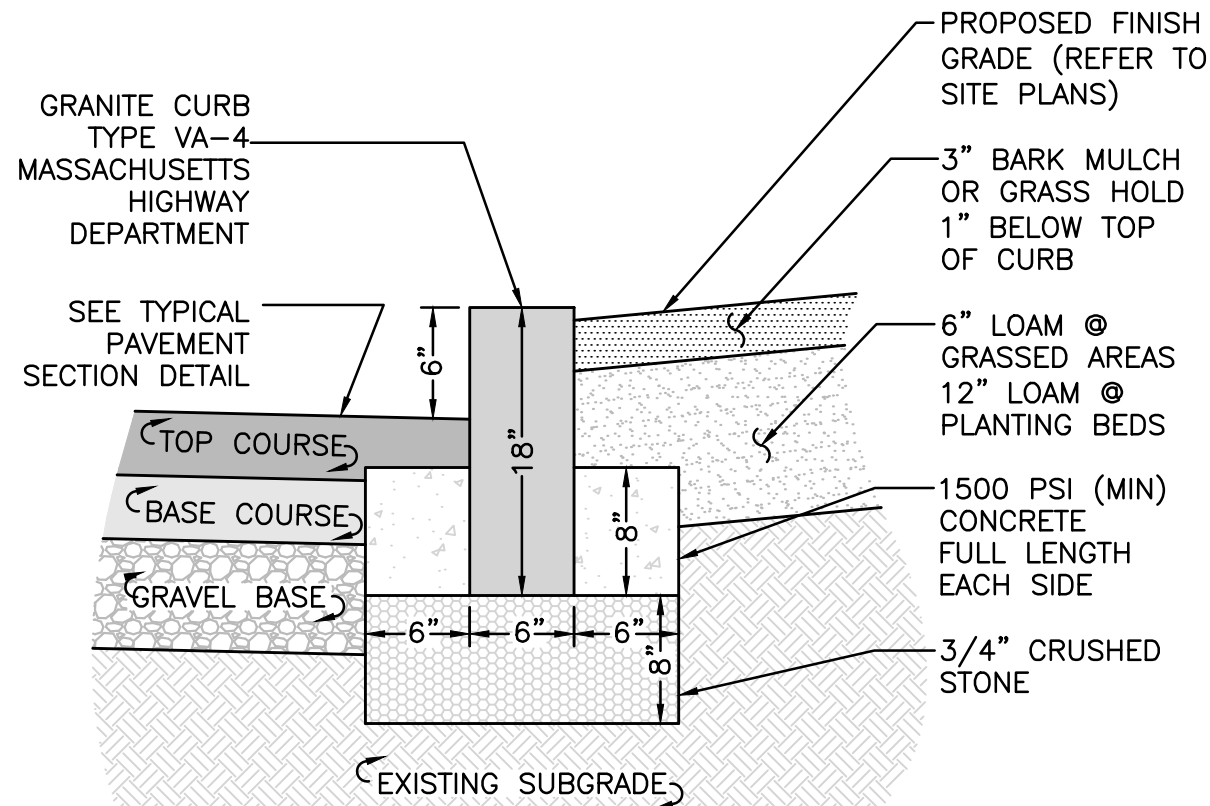
TEMPORARY CONSTRUCTION ENTRANCE/EXIT
NOT TO SCALE



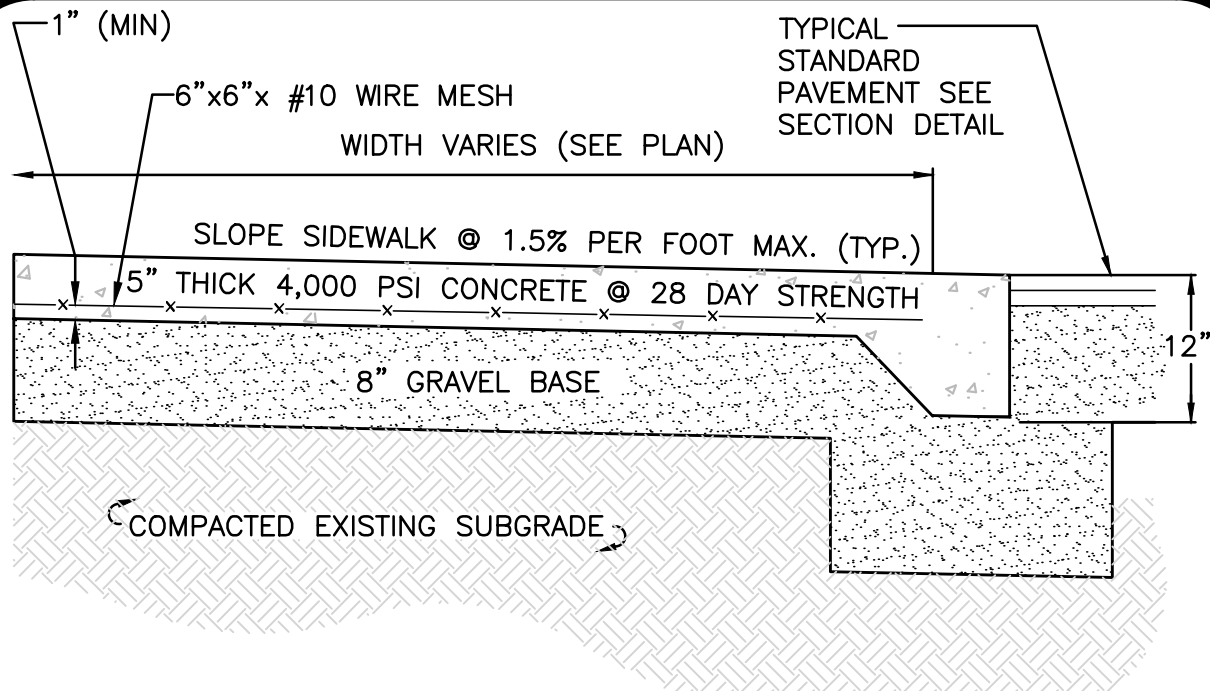
NOTES:

1. SCREEN MATERIAL SHALL BE MADE FROM KNITTED HIGH DENSITY POLYETHYLENE WITH UV ADDITIVES.
2. SCREEN FILAMENT STRENGTH SHALL BE A MINIMUM OF 50LBS/FT.
3. SCREEN MATERIAL BREAK STRENGTH SHALL BE A MINIMUM OF 500 LBS/FT.
4. SCREEN SHADE / WIND BLOCKAGE SHALL BE A MINIMUM OF 85%.
5. SCREEN COLOR SHALL BE GREEN OR BLACK.

TEMPORARY CONSTRUCTION FENCE w/ SCREEN
NOT TO SCALE



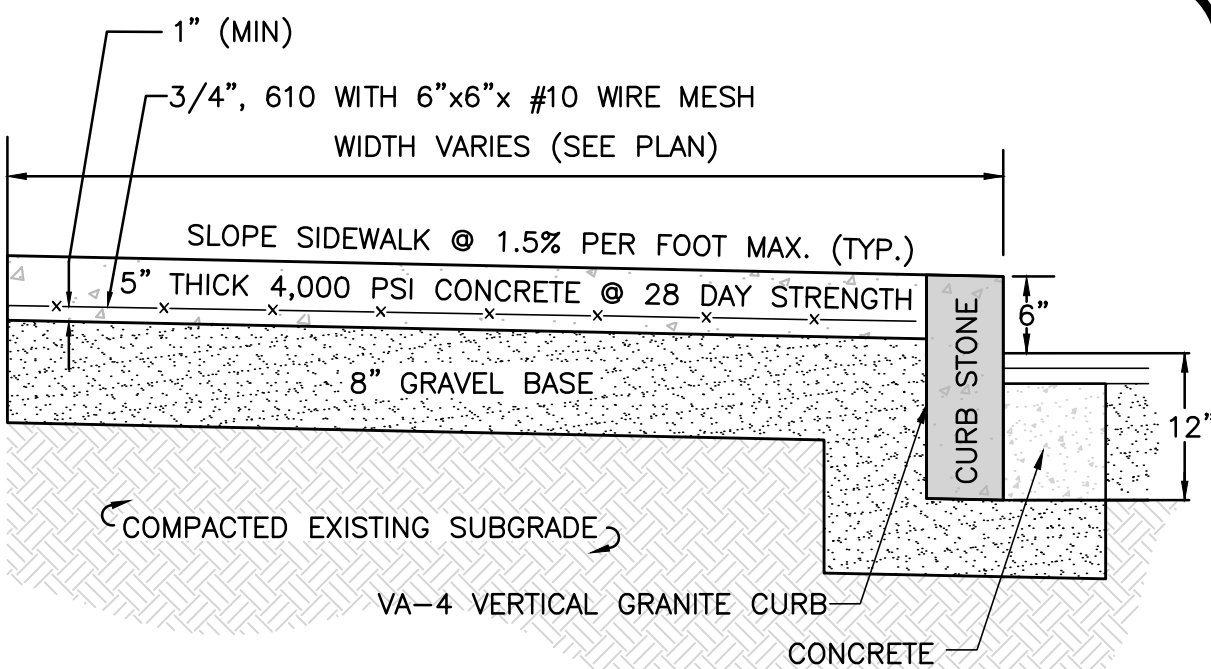
VERTICAL GRANITE CURB
NOT TO SCALE



NOTES:

1. SIDEWALK TO HAVE TOOLED JOINTS IN A 5' x 5' (TYP.) GRID WITH EXPANSION JOINTS 15' ON CENTER WITH PREMOLDED FILLER.
2. SEE PLAN FOR ELEVATIONS
3. SIDEWALK CROSS SLOPE TO BE 1.5% MAX & SIDEWALK LONGITUDINAL RUNNING SLOPE TO BE 4.5% MAX, TYP.
4. APPLY BRUSH MARKS PERPENDICULAR TO TRAVEL PATH.

CONCRETE SIDEWALK
NOT TO SCALE



NOTES:

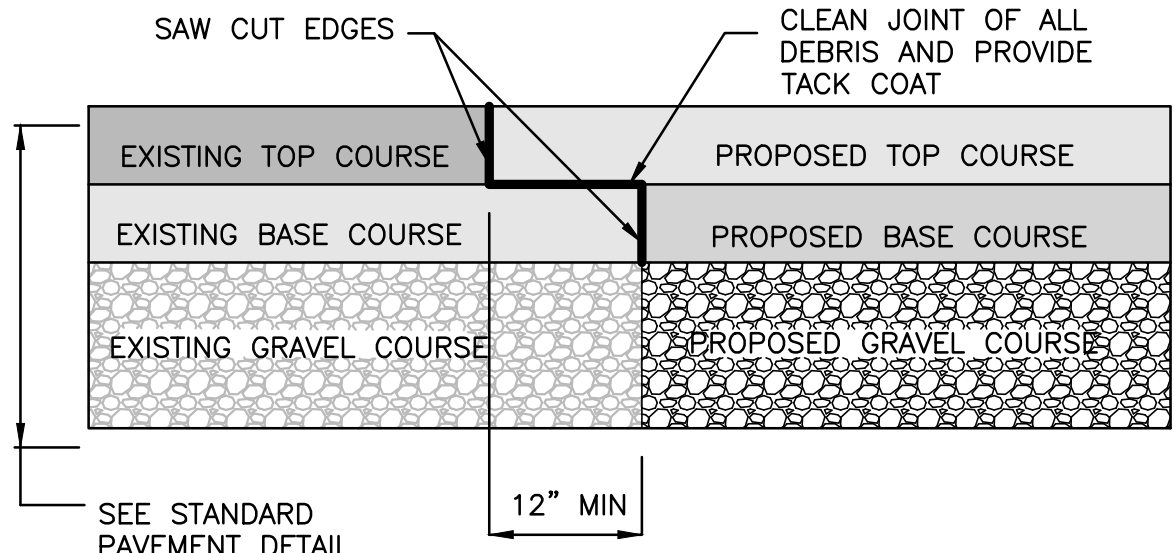
1. SIDEWALK TO HAVE TOOLED JOINTS IN A 5' x 5' (TYP.) GRID WITH EXPANSION JOINTS 15' ON CENTER AND PREMOLDED FILLER.
2. SEE PLAN VIEW FOR ELEVATIONS AT CURB
3. SIDEWALK CROSS SLOPE TO BE 1.5% MAX & SIDEWALK LONGITUDINAL RUNNING SLOPE TO BE 4.5% MAX, TYP.

CONCRETE SIDEWALK WITH VGC CURBSTONE
NOT TO SCALE

NOT USED
NOT TO SCALE

NOTE:

TACK COAT - PROVIDE EMULSIFIED ASPHALT WHICH CONFORMS TO THE REQUIREMENTS OF THE STATE SPECIFICATIONS, DILUTED WITH ONE PART WATER TO ONE ONE PART ASPHALT FOLLOWING AASHTO M140/ASTM D997, OR AASHTO M208/ASTM D2397, SS-1H, CSS-1, OR CSS-1H.



PAVEMENT KEY CUT DETAIL
NOT TO SCALE



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ARLINGTON, MA 02474

PROJECT:

190 & 192-200
MASSACHUSETTS AVE
ARLINGTON, MA 02476

PROJECT NO. 2729-02 DATE: 10/23/2020

SCALE: AS SHOWN DWG. NAME: C2729-02

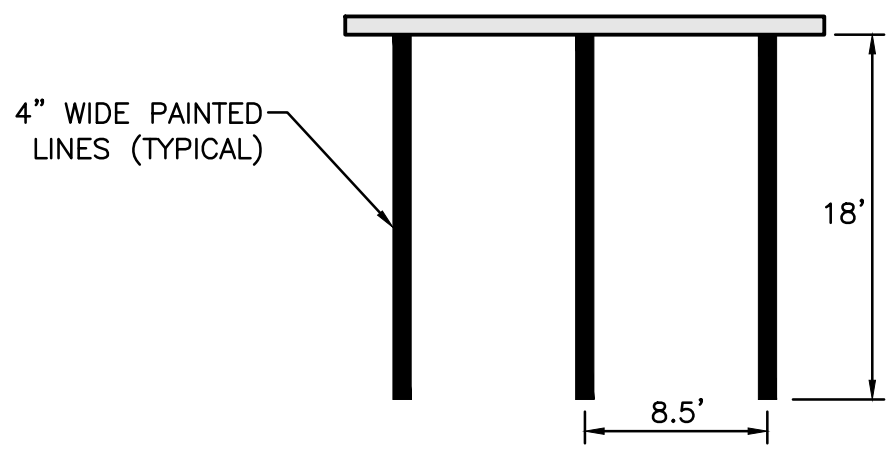
DESIGNED BY: ARM CHECKED BY: BDJ

PREPARED BY:

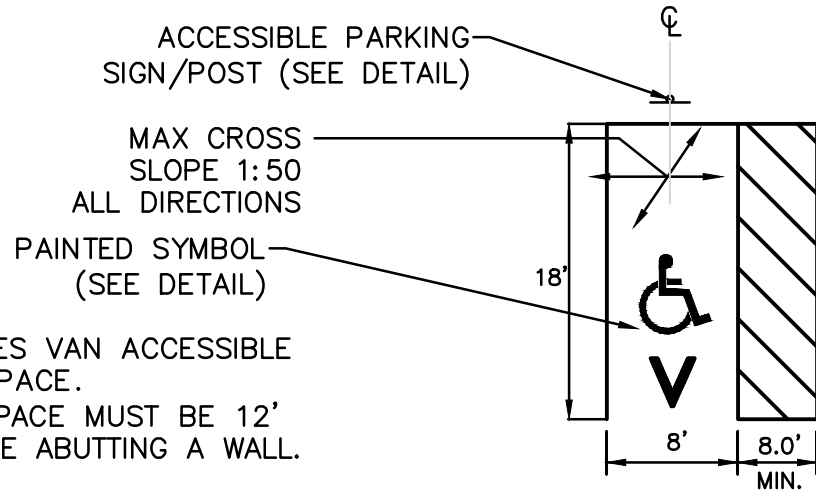
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DRAWING TITLE: DETAILS SHEET No. C-501

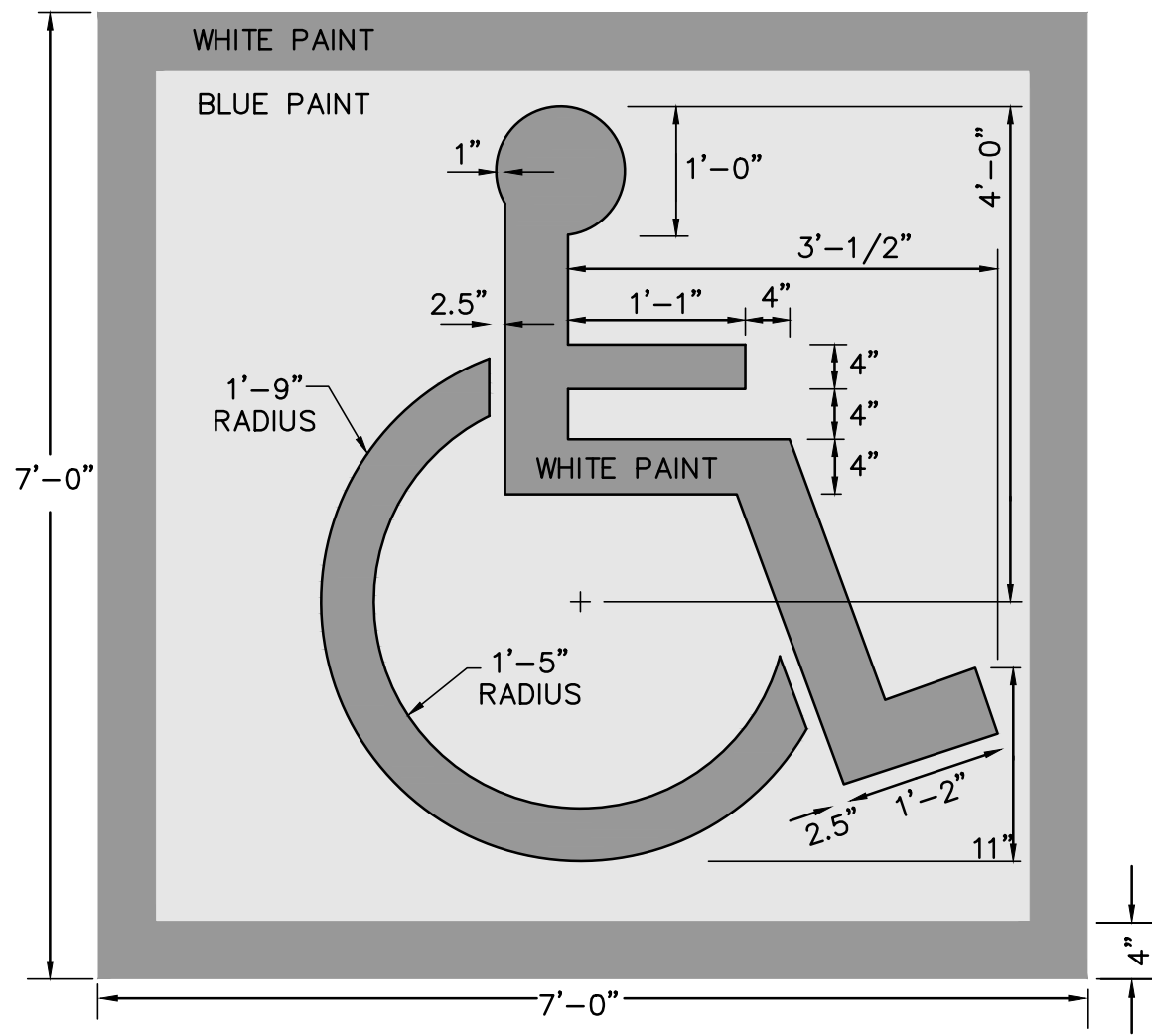


STANDARD STALL



ADA AND STANDARD PARKING STRIPING

1



SYMBOL TO BE CENTERED ON WIDTH OF PARKING STALL. SYMBOL IS REQUIRED TO CONTRAST WITH BACKGROUND. USE WHITE ON BLUE (COLOR #105090 IN FEDERAL STANDARD 5952) DOUBLE COAT.

ACCESSIBLE PARKING STALL PAVEMENT MARKING

2

NOT USED

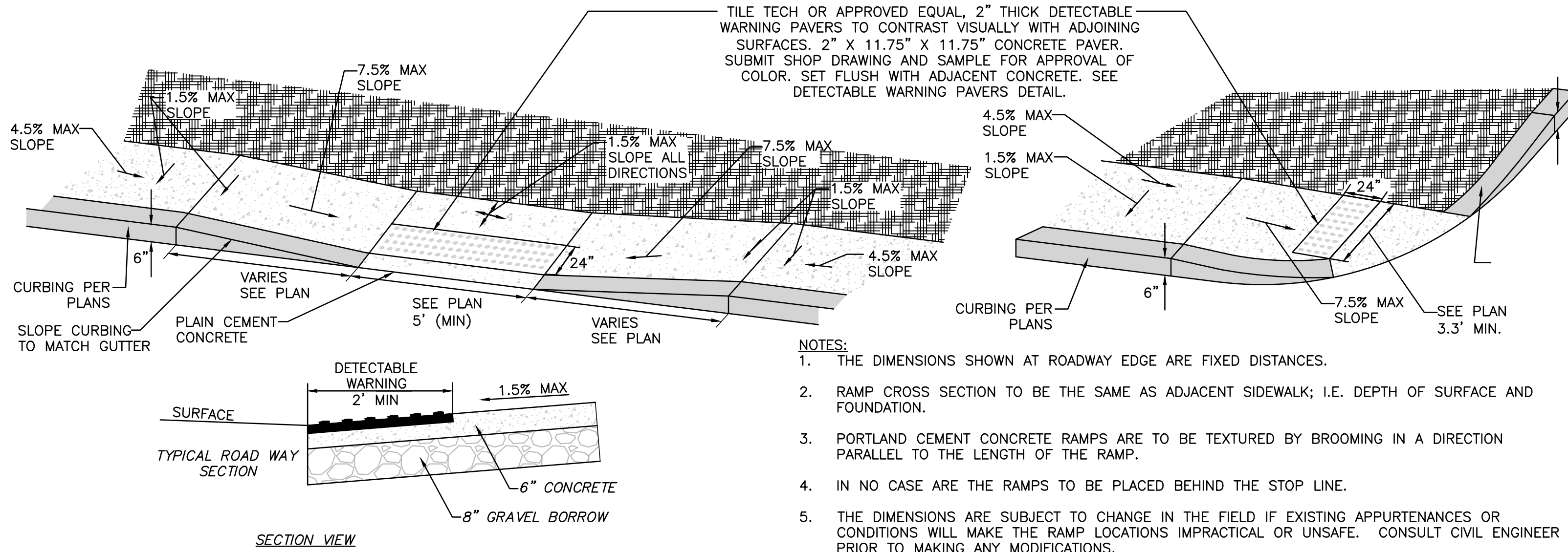
3

| DESC. | SIGN | SIZE | MOUNTING HEIGHT | DESCRIPTION | REFLEC-TORIZED |
|------------------|------|-----------|-----------------|--|----------------|
| R7-BM (MODIFIED) | | 12" x 26" | 7' - 0" | WHITE TEXT ON BLUE FIELD WITH WHITE BORDER | YES |

- TRAFFIC AND SAFETY SIGNAGE SHALL COMPLY WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) STANDARDS.
- MOUNTING HEIGHT IS DEFINED AS THE DISTANCE FROM THE BOTTOM OF THE SIGN TO THE NEAR EDGE OF THE PAVEMENT.

SIGN TABLE

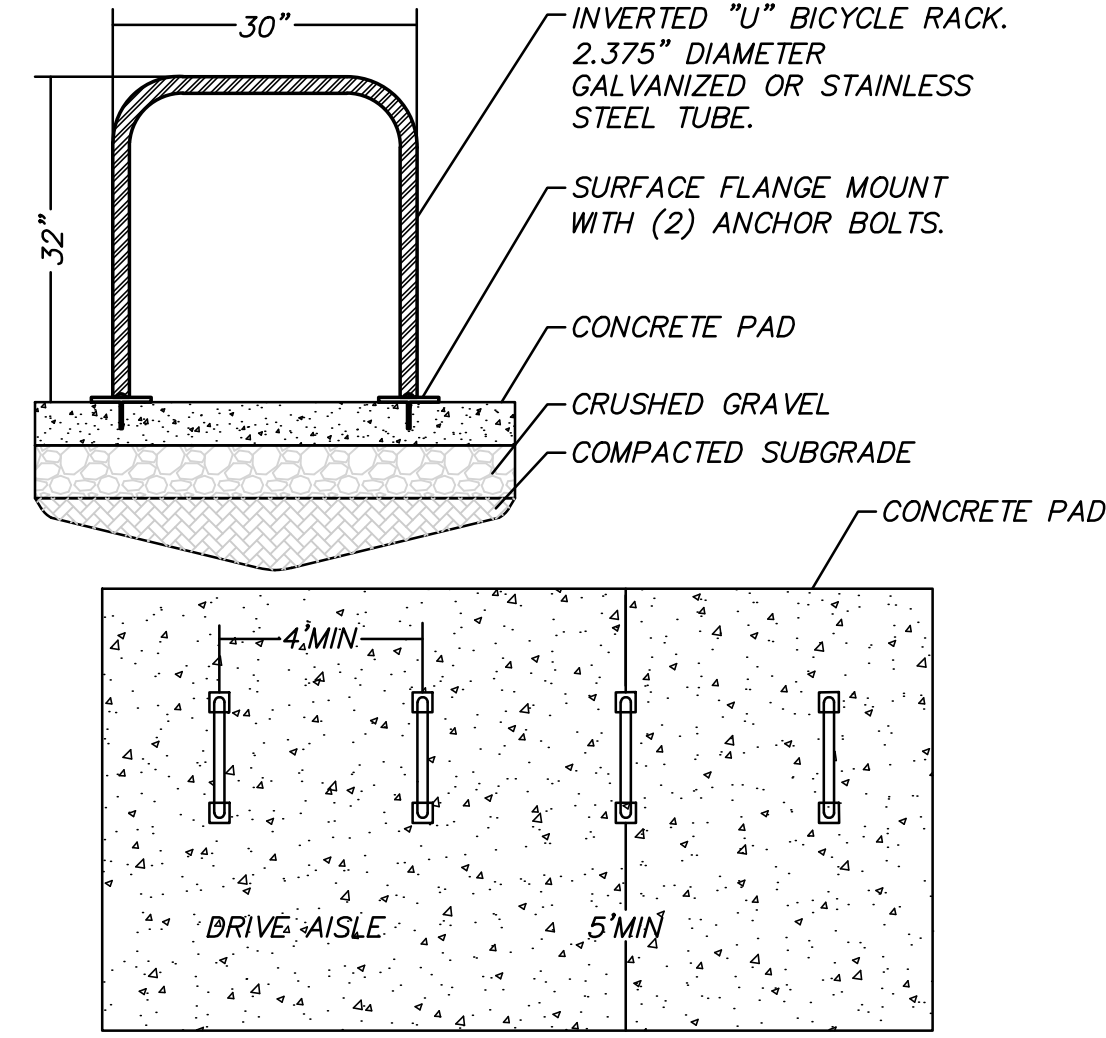
4



- NOTES:
- THE DIMENSIONS SHOWN AT ROADWAY EDGE ARE FIXED DISTANCES.
 - RAMP CROSS SECTION TO BE THE SAME AS ADJACENT SIDEWALK; I.E. DEPTH OF SURFACE AND FOUNDATION.
 - PORTLAND CEMENT CONCRETE RAMPS ARE TO BE TEXTURED BY BROOMING IN A DIRECTION PARALLEL TO THE LENGTH OF THE RAMP.
 - IN NO CASE ARE THE RAMPS TO BE PLACED BEHIND THE STOP LINE.
 - THE DIMENSIONS ARE SUBJECT TO CHANGE IN THE FIELD IF EXISTING APPURTENANCES OR CONDITIONS WILL MAKE THE RAMP LOCATIONS IMPRACTICAL OR UNSAFE. CONSULT CIVIL ENGINEER PRIOR TO MAKING ANY MODIFICATIONS.

HANDICAP CURB CUT & CURB TRANSITION

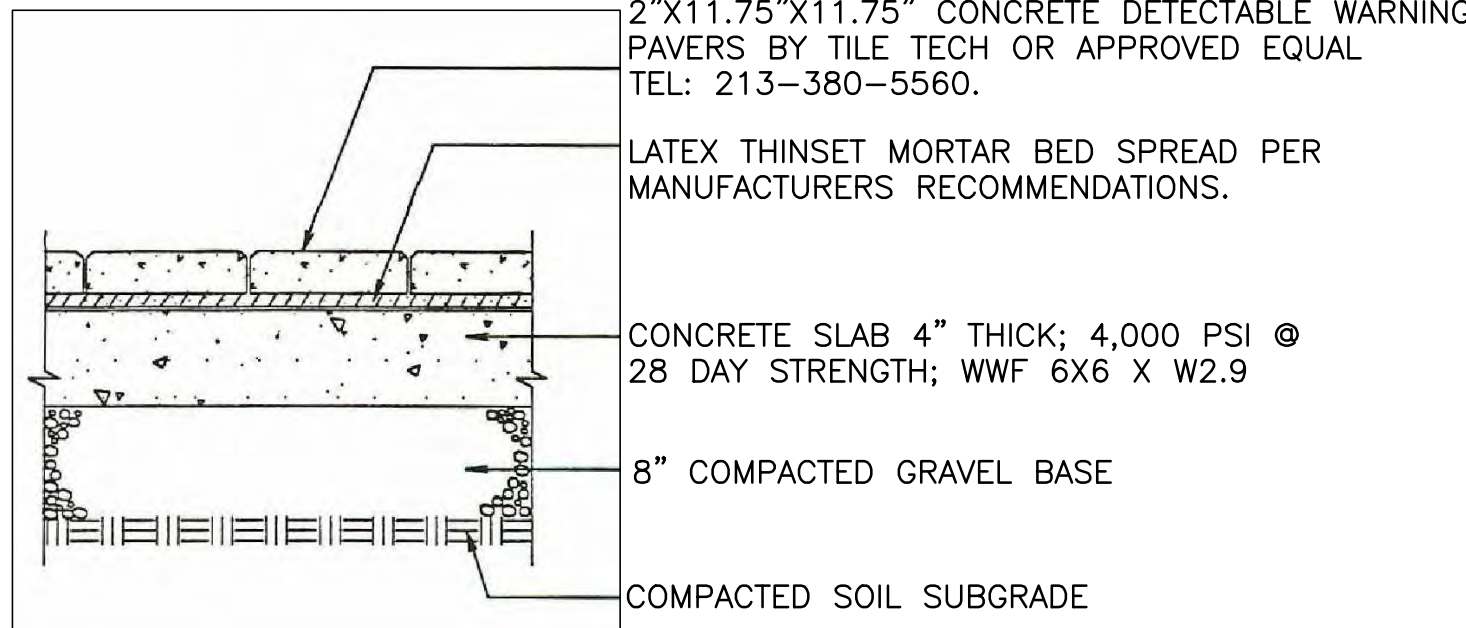
5



NOTE: BIKE RACKS TO BE FROM PARK A BIKE: MODEL 200 SERIES-INVERTED U BIKE RACKS HR202 30"x2.38"x32" SURFACE MOUNTED. SURFACE MOUNT PER MANUFACTURER'S RECOMMENDATIONS. FINISH SELECTED BY OWNER. PROVIDE SHOP DRAWINGS FOR APPROVAL PRIOR TO ORDERING.

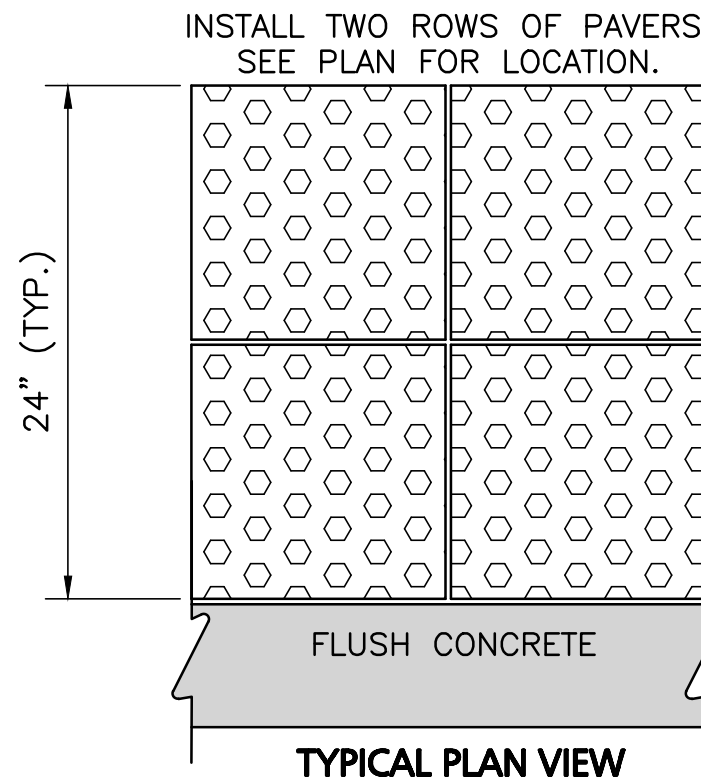
BICYCLE RACK DETAIL

6



TYPICAL SECTION VIEW

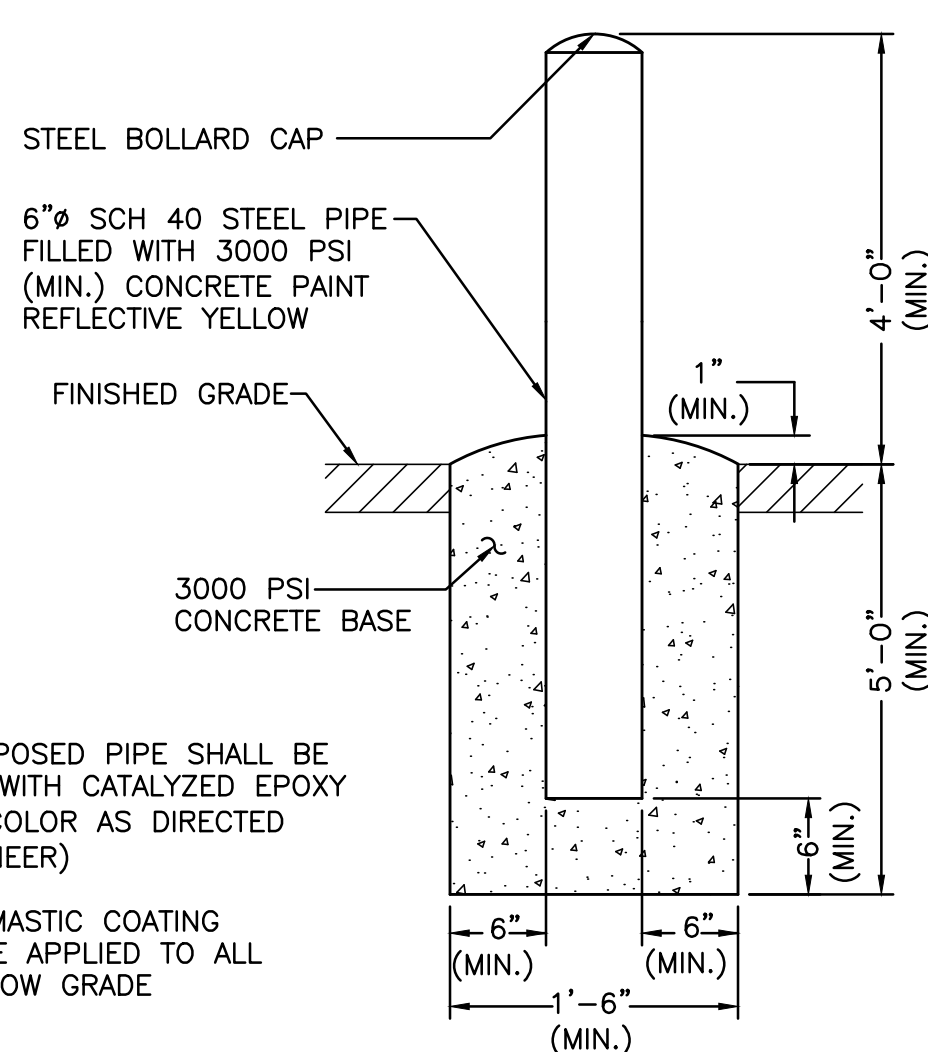
- NOTES:
- CONCRETE SLAB SHALL BE SLOPED 1.5% CROSS PITCH MAX TO PROVIDE COMPLETE SURFACE DRAINAGE. SEE GRADING PLAN & HANDICAP CURB CUT / CURB TRANSITION DETAIL.
 - SLAB TO HAVE STEEL TROWEL AND FINE BROOM FINISH. DO NOT USE CURING COMPOUNDS. CONTRACTOR TO ADD EXPANSION JOINTS AND PREMOLED FILLER AT EDGE OF TILES AND ADJACENT MATERIAL.
 - SET TILES FLUSH WITH ADJACENT MATERIALS.
 - SUBMIT SHOP DRAWINGS OF TILES AND SAMPLE FOR APPROVAL OF COLOR TO OWNER / ARCH.
 - INSTALL DETECTABLE WARNING PAVERS PER MANUFACTURER'S RECOMMENDATIONS.



TYPICAL PLAN VIEW

TACTILE WARNING PAVERS

7



- NOTES:
- ALL EXPOSED PIPE SHALL BE PAINTED WITH CATALYZED EPOXY PAINT. (COLOR AS DIRECTED BY ENGINEER)
 - A BITUMASTIC COATING SHALL BE APPLIED TO ALL PIPE BELOW GRADE

FIXED PIPE BOLLARD DETAIL

8

NOT USED

9



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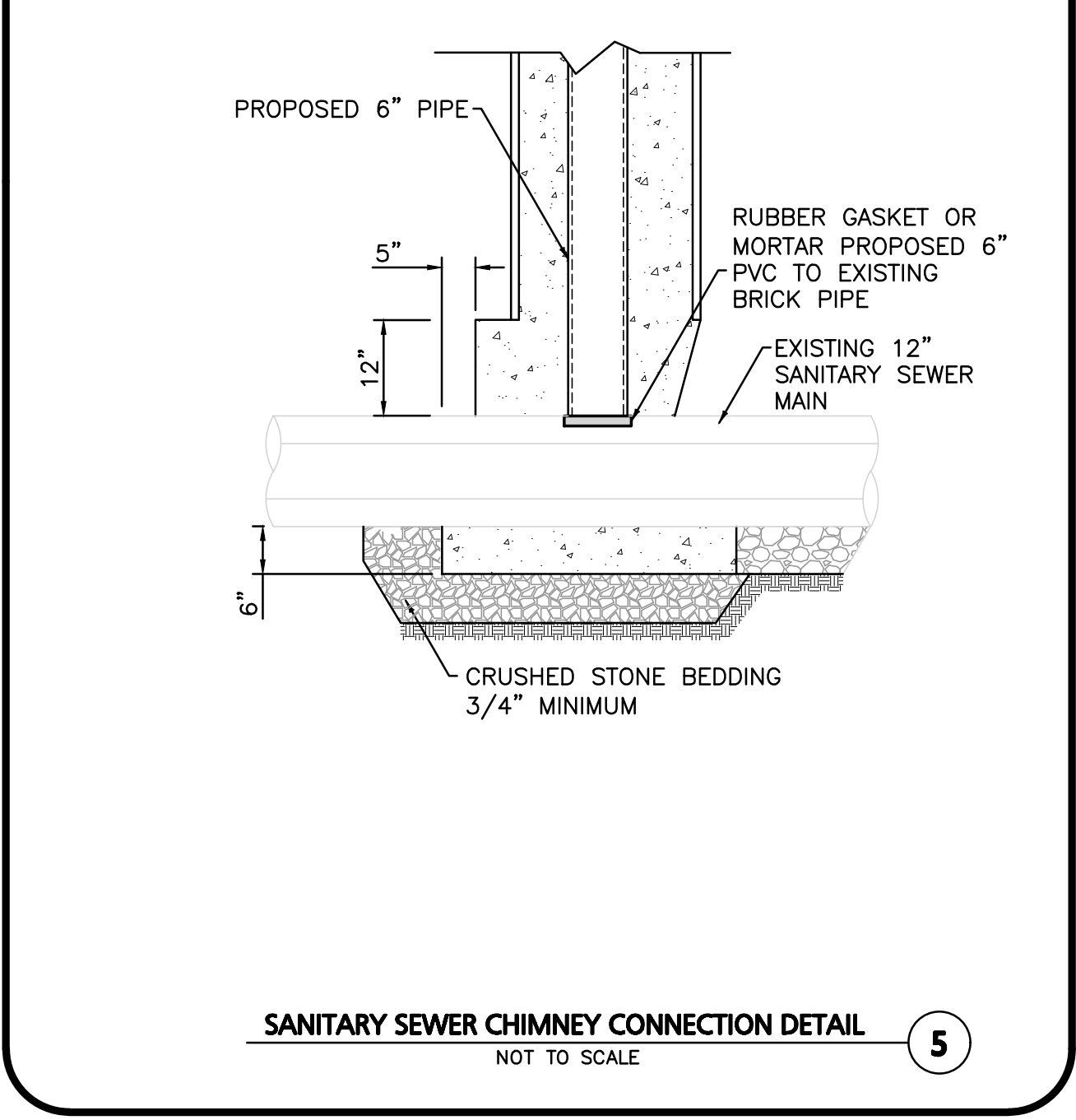
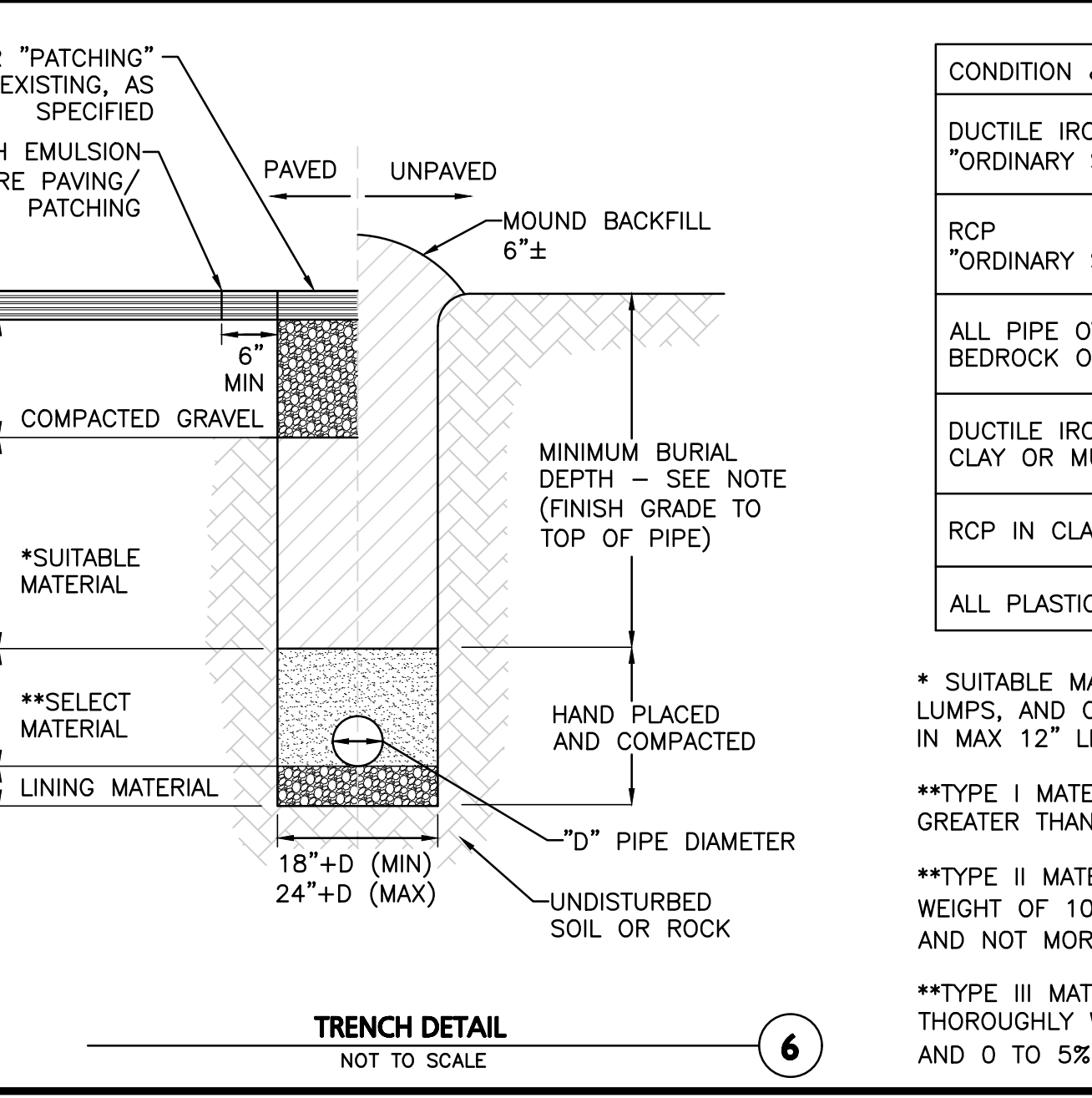
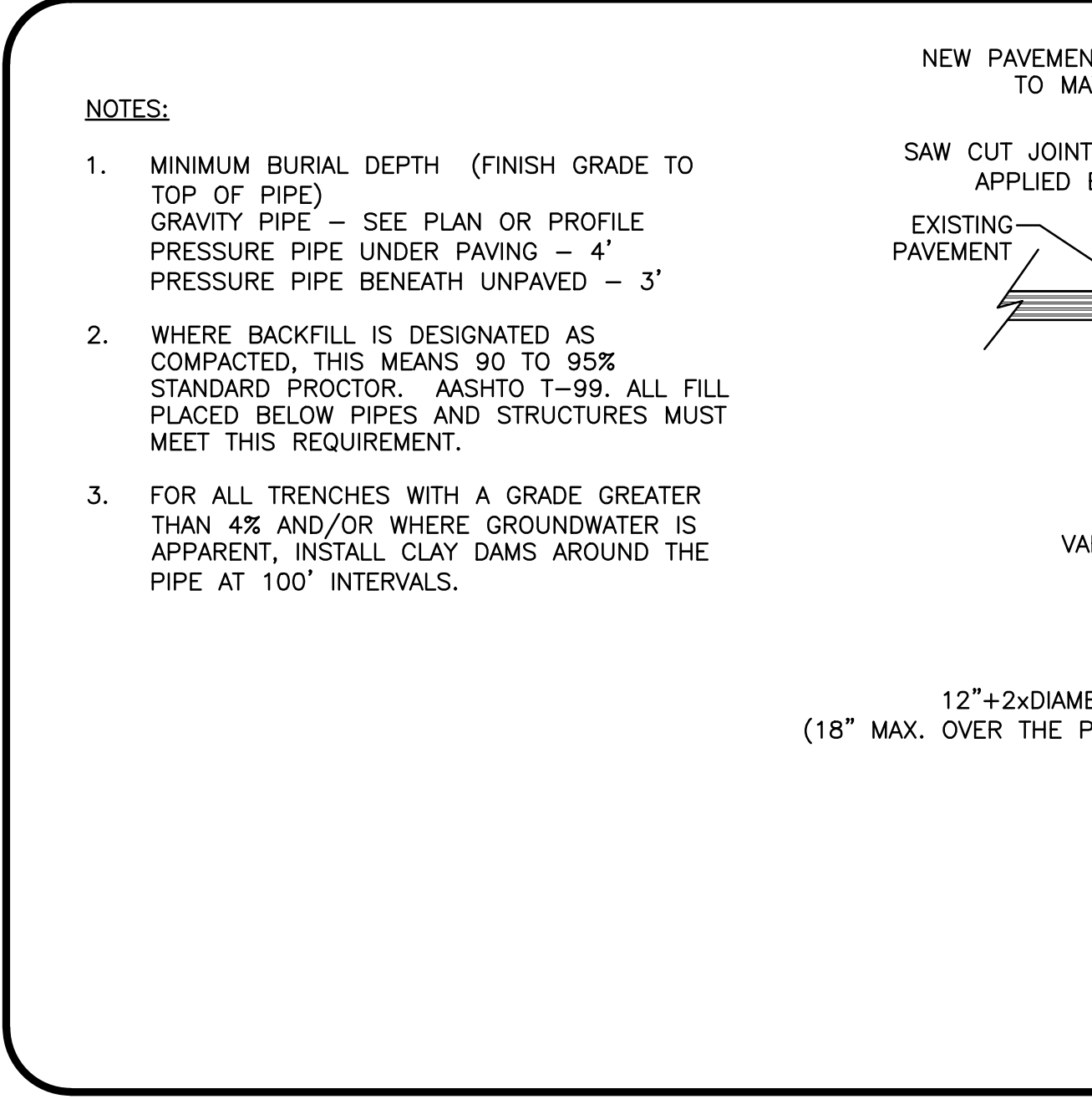
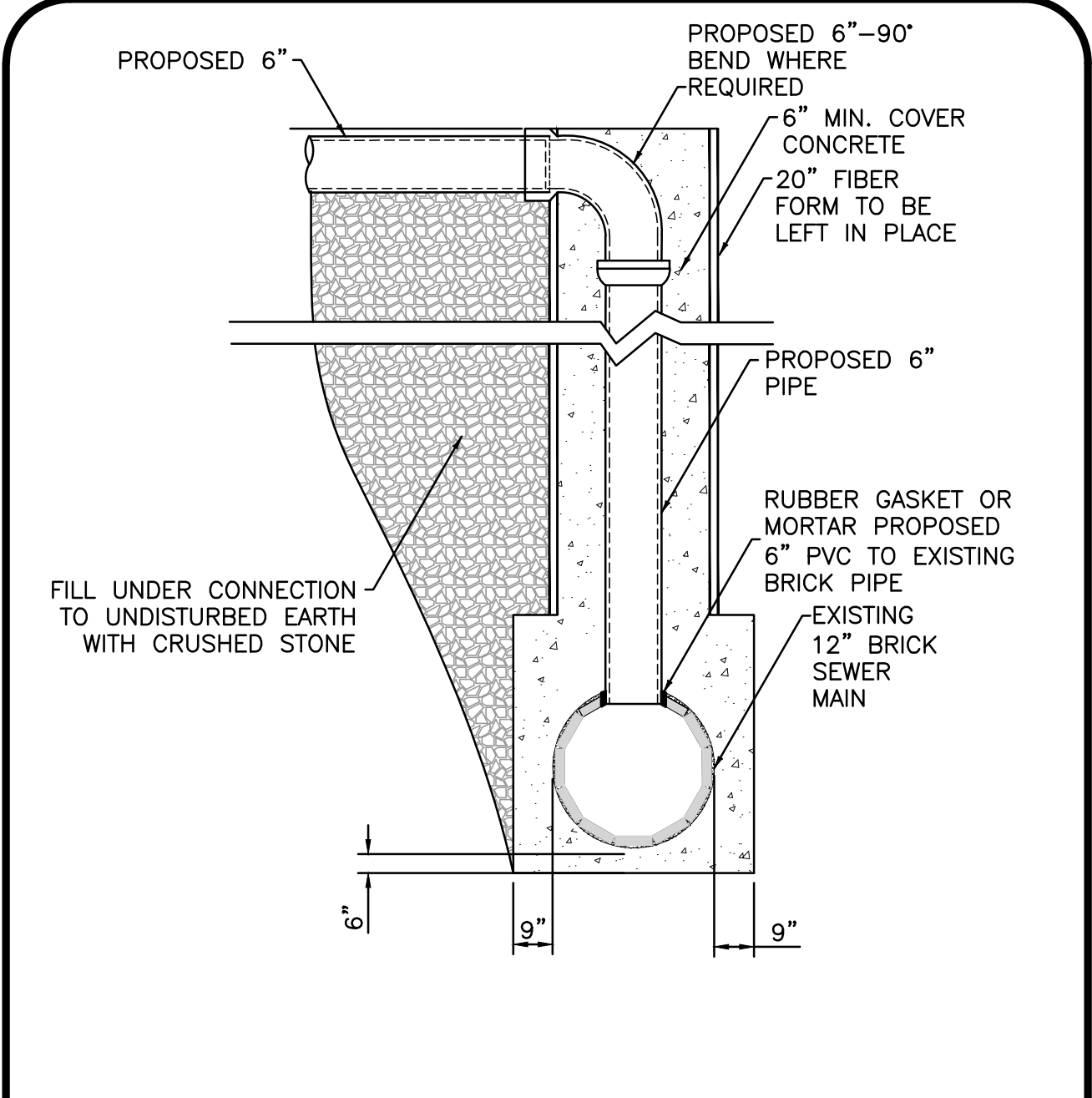
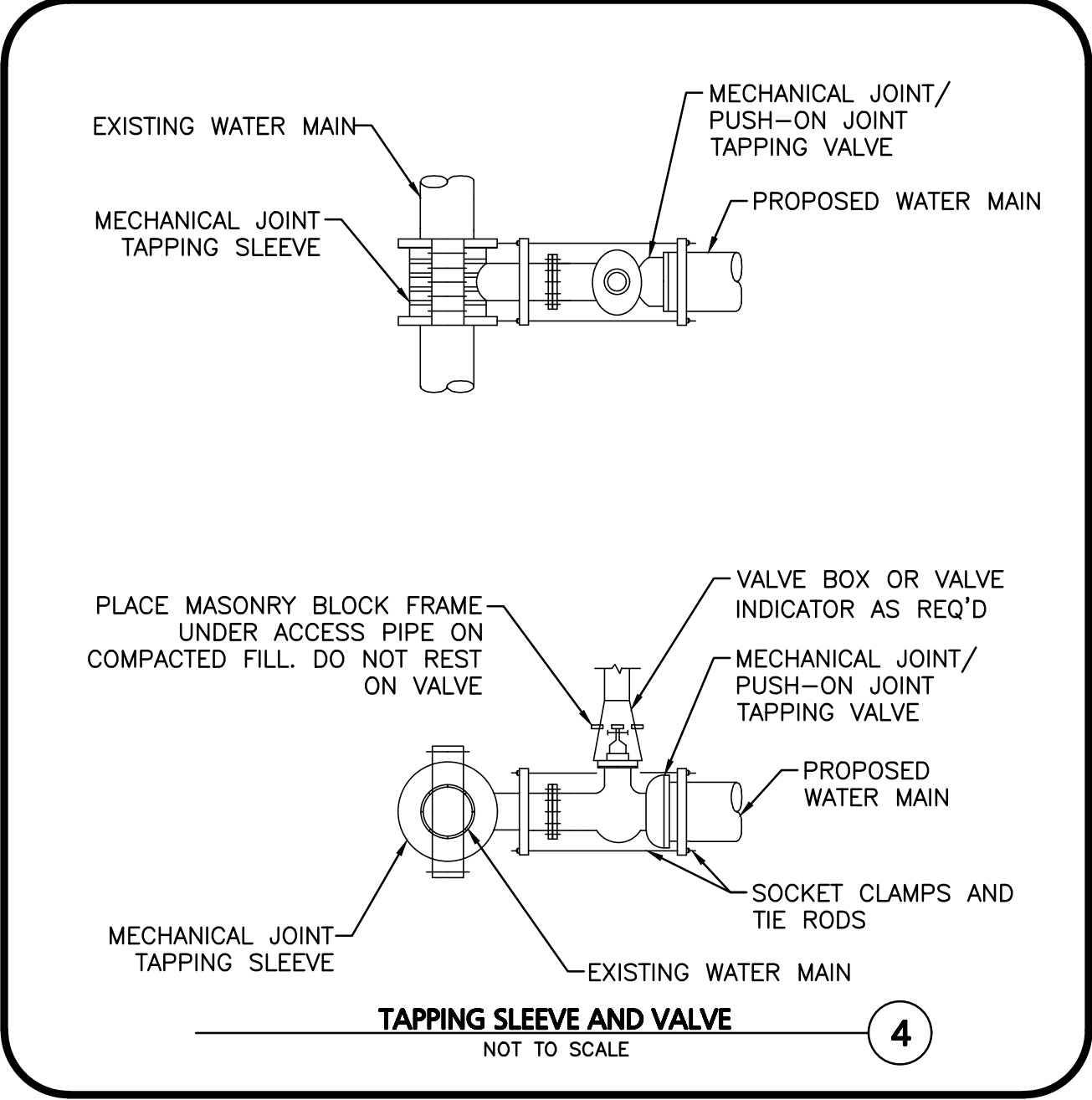
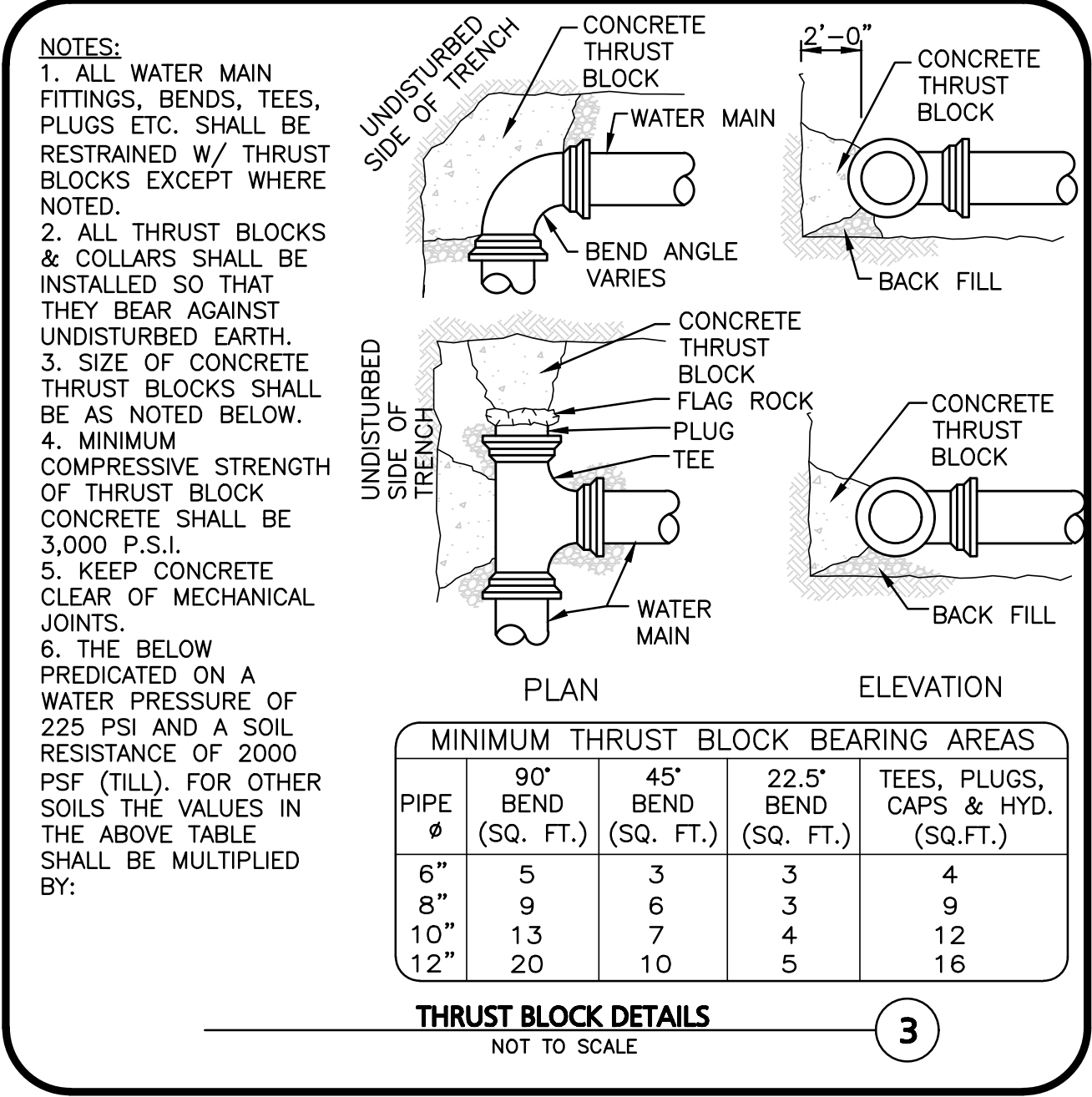
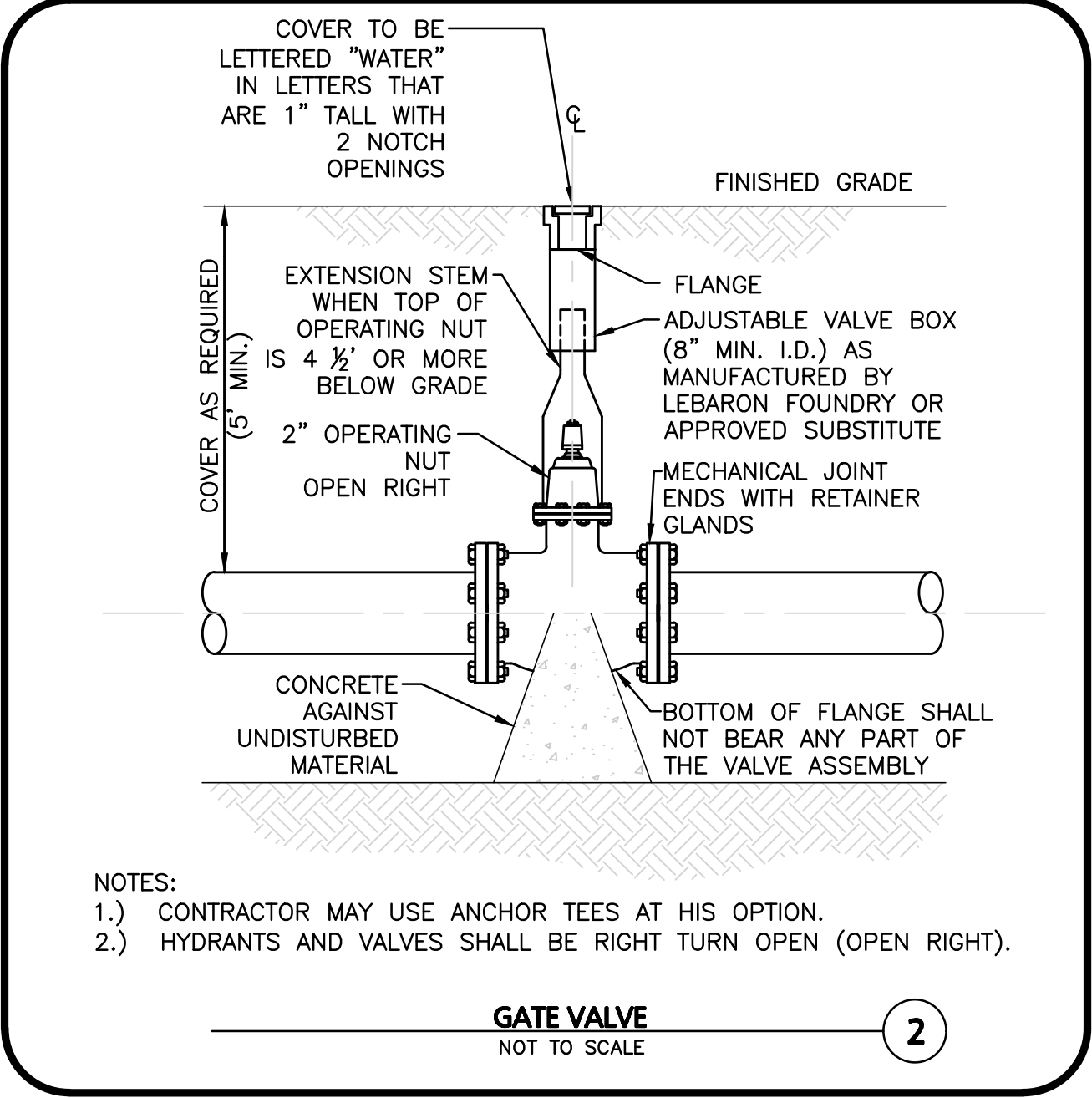
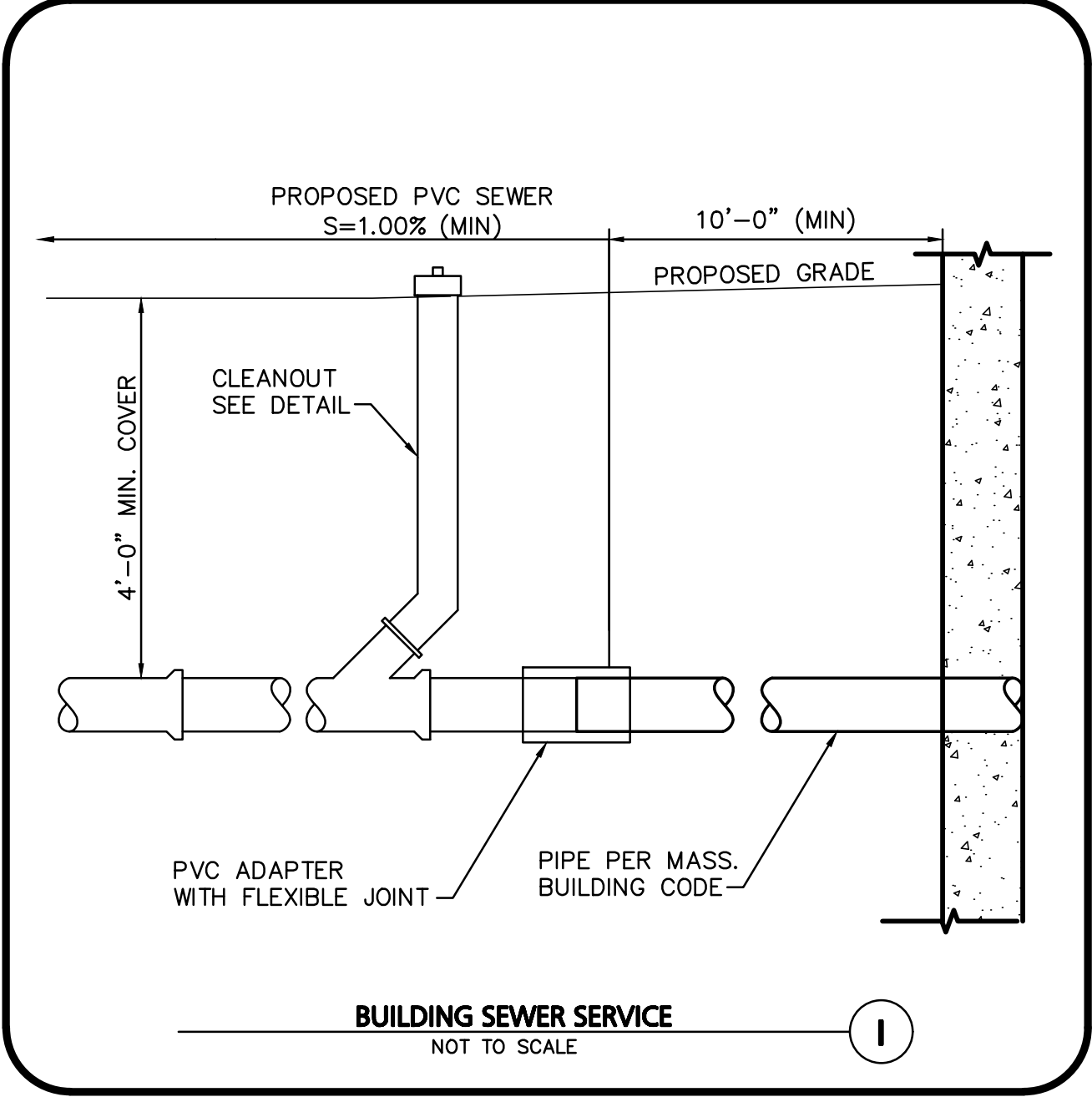


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DRAWING TITLE: SHEET No.

DETAILS

C-502



BRIAN D. JONES
CIVIL
No. 46212
REGISTERED
PROFESSIONAL ENGINEER

03-10-21

PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

| REV | DATE | DESCRIPTION |
|-----|------------|-----------------------|
| 1 | 03/10/2021 | ISSUED FOR ARB REVIEW |

APPLICANT/OWNER:

192-200 MASSACHUSETTS AVE, LLC
455 MASSACHUSETTS AVE, STE 1
ARLINGTON, MA 02474

PROJECT:

190 & 192-200
MASSACHUSETTS AVE
ARLINGTON, MA 02476

| PROJECT NO. | 2729-02 | DATE: | 10/23/2020 |
|--------------|----------|-------------|------------|
| SCALE: | AS SHOWN | DWG. NAME: | C2729-02 |
| DESIGNED BY: | ARM | CHECKED BY: | BDJ |
| PREPARED BY: | | | |

ALLEN & MAJOR
ASSOCIATES, INC.

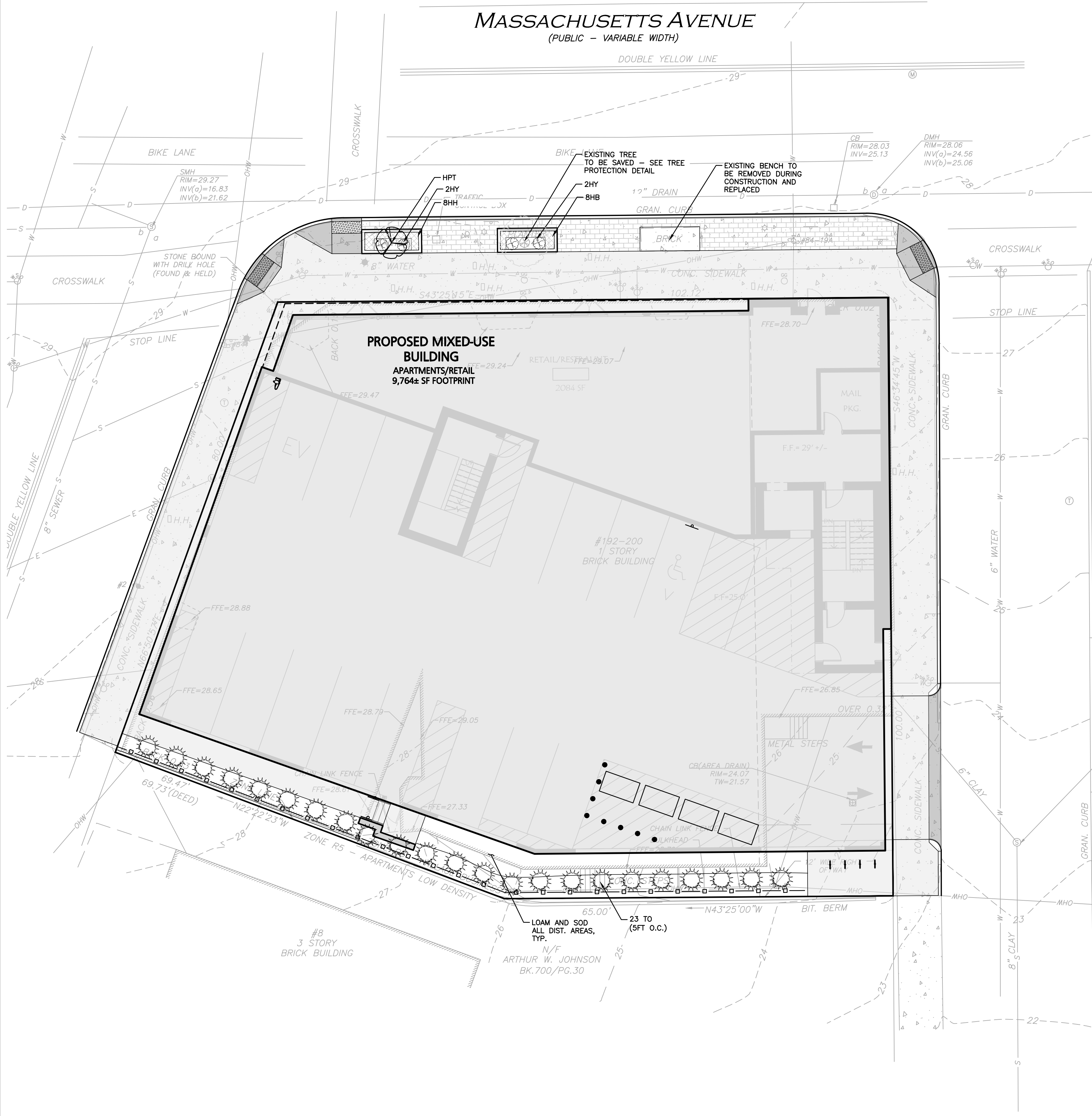
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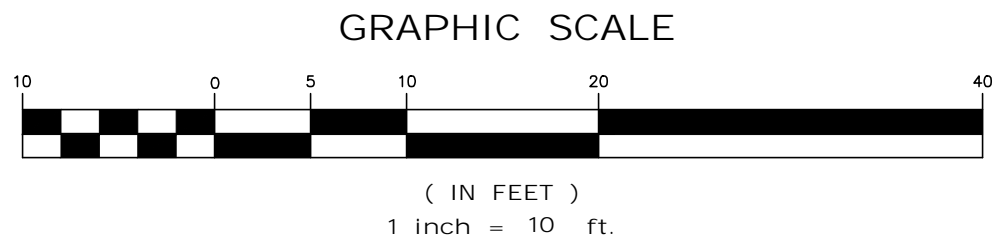
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| DETAILS | C-503 |

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NOTES:

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2. ALL LANDSCAPED AREAS WITH SHRUBS, TREES, AND PERENNIALS TO HAVE 18" MINIMUM DEPTH OF TOPSOIL. EIGHTEEN INCHES OF TOPSOIL AROUND TREES AND SHRUBS DOES NOT INCLUDE AMENDED PLANTING SOIL WITHIN TREE / SHRUB PIT FOR FULL DEPTH OF ROOTBALLS. SEE PLANTING DETAILS FOR PLANTING DEPTH AT SHRUBS AND TREES. ALL AREAS OF LOAM AND SEED OR LOAM & SOD TO HAVE 6" MINIMUM DEPTH OF TOPSOIL. TOPSOIL TO BE TESTED BY CONTRACTOR, AND APPROVED BY A&M PRIOR TO PURCHASE AND OR PLACEMENT. GENERAL CONTRACTOR, DEMOLITION CONTRACTOR, AND LANDSCAPE CONTRACTOR TO COORDINATE PROPER DEPTH OF EXISTING MATERIAL REMOVAL ACROSS SITE SO THAT 18" MINIMUM AND 6" MINIMUM DEPTHS OF PROPOSED TOPSOIL NOTED ABOVE ARE MET AT NO ADDITIONAL COST TO OWNER. SEE TOPSOIL DETAIL.



LEGEND

| | |
|------------------------|--|
| DECIDUOUS TREE | |
| EVERGREEN TREE | |
| FLOWERING TREE | |
| SHRUBS | |
| MULCH BED | |
| PERENNIALS/GROUNDCOVER | |

PLANTING SCHEDULE-TREES, SHRUBS, GROUNDCOVERS & PERENNIALS

| KEY | QUANTITY | BOTANICAL NAME | COMMON NAME | MIN. SIZE | SPACING | COMMENTS |
|-----------------|----------|--|----------------------------------|-------------------|----------|-----------|
| EVERGREEN TREES | | | | | | |
| TO | 26 | THUJA O. 'WINTERGREEN' | WINTERGREEN ARBORVITAE | 6-7' HT | AS SHOWN | B&B |
| TREES/SHRUBS | | | | | | |
| HPT | 1 | HYDRANGEA PANICULATA 'LIMELIGHT' | TREE FORM LIMELIGHT HYDRANGEA | 5-6' HT. TREEFORM | AS SHOWN | B&B |
| HY | 4 | HYDRANGEA ARBORESCENS 'INVINCIBELLE WEE WHITE' | INVINCIBELLE WEE WHITE HYDRANGEA | #3 | AS SHOWN | POT |
| PERENNIALS | | | | | | |
| HH | 8 | HEMEROCALLIS 'HAPPY RETURNS' | HAPPY RETURNS DAYLILLY | #1 | 24" O.C | STAGGERED |
| HB | 8 | HOSTA 'HADSPEN BLUE' | HADSPEN BLUE HOSTA | #1 | 24" O.C | STAGGERED |



REGISTERED LANDSCAPE ARCHITECT FOR ALLEN & MAJOR ASSOCIATES, INC.

1 03/10/2021 ISSUED FOR ARB REVIEW

APPLICANT/OWNER:

192-200 MASSACHUSETTS AVE, LLC
455 MASSACHUSETTS AVE, STE 1
ARLINGTON, MA 02474

PROJECT:

190 & 192-200
MASSACHUSETTS AVE
ARLINGTON, MA 02476

PROJECT NO. 2729-02 DATE: 10/23/2020

SCALE: 1" = 10' DWG. NAME: C2729-02

DESIGNED BY: BCD CHECKED BY: BDJ

PREPARED BY:



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DRAWING TITLE:

LANDSCAPE PLAN

SHEET No.

L-101

LOAM AND SODDING NOTES

CONTRACTOR SHALL SOD AREAS NOTED ON THE PLANS.

SOD IS TO BE A BLEND OF FOUR TO FIVE CURRENT AND IMPROVED HYBRID BLUEGRASS AND FESCUE MIXES APPROPRIATE FOR BOTH SEMI-SHADED AND AREAS OF SUN.

HYBRIDS MAY INCLUDE: BLACKSTONE KENTUCKY BLUEGRASS, AWARD KENTUCKY BLUEGRASS, CHALLENGER KENTUCKY BLUEGRASS, BLACKBURG II KENTUCKY BLUEGRASS OR COMPARABLE AND EQUAL BLUEGRASS HYBRIDS.

1. SOD SHALL BE HIGH QUALITY, NURSERY GROWN ON CULTIVATED MINERAL AGRICULTURAL SOILS. SOD SHALL BE MOIST, AND MACHINE CUT AT A UNIFORM SOIL THICKNESS OF AT LEAST ¾" AT TIME OF CUTTING. MEASUREMENT FOR THICKNESS SHALL INCLUDE TOP GROWTH AND THATCH. SOD SHALL BE FREE OF DISEASES, WEEDS, BARE SPOTS, OR INSECTS.

2. SODDING TO BE COMPLETED "IN SEASON" BETWEEN APRIL 1 TO JUNE 15 OR AUGUST 15 TO OCTOBER 1, EXCEPT FOR RE-SODDING OF BARE SPOTS. IF UNABLE TO SOD WITHIN THESE TIMEFRAMES, CONTRACTOR TO INSTALL EROSION CONTROL MATS ON ALL SLOPES 3:1 AND OVER, HYDROSEED ALL EXPOSED AREAS, ADD SOIL STABILIZER "FLUX TERRA HP-FGM SOIL STABILIZER" AS MANUFACTURED BY "PROFILE" TO HYDROSEED (AT RATE OF 3,000 LBS PER ACRE), AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR TO COMPLETE ALL ABOVE "OUT OF SEASON" REQUIREMENTS AND THEN ALSO BE RESPONSIBLE FOR RE-GRADING AND RE-SODDING ALL DISTURBED, ERODED, OR BARE SPOTS WITHIN NEXT CLOSEST PLANTING SEASON IN FALL OR SPRING AT NO ADDITIONAL COST TO OWNER. CONTRACTOR RESPONSIBLE FOR ALL MAINTENANCE UNTIL FINAL ACCEPTANCE OF LAWN AREAS INCLUDING: WATERING, ADDING FERTILIZERS AND LIME AND MOWING AT NO ADDITIONAL COST TO OWNER.

3. COMMERCIAL FERTILIZER SHALL BE APPLIED AT THE RATE OF 25 POUNDS PER 1000 SQ. FT. OR AS RECOMMENDED BY THE TESTING AGENCY. LIME TO BE SPREAD AT THE RATE OF 100 POUNDS PER 1000 SQ. FT. OR AS RECOMMENDED BY THE TESTING AGENCY. COMMERCIAL FERTILIZER SHALL BE A COMPLETE FERTILIZER CONTAINING AT LEAST 50% OF THE NITROGEN OF WHICH IS DERIVED FROM NATURAL ORGANIC SOURCES OF UREAFORM. IT SHALL CONTAIN THE FOLLOWING PERCENTAGES BY WEIGHT: NITROGEN (N) 10%, PHOSPHORUS (P) 6%, POTASH (K) 4%. LIME SHALL BE AN APPROVED AGRICULTURAL LIMESTONE CONTAINING NOT LESS THAN 85% OF TOTAL CARBONATES. LIMESTONE SHALL BE GROUND TO SUCH FINENESS THAT 50% WILL PASS A 100 MESH SIEVE AND 90% WILL PASS THROUGH A 20 MESH SIEVE.

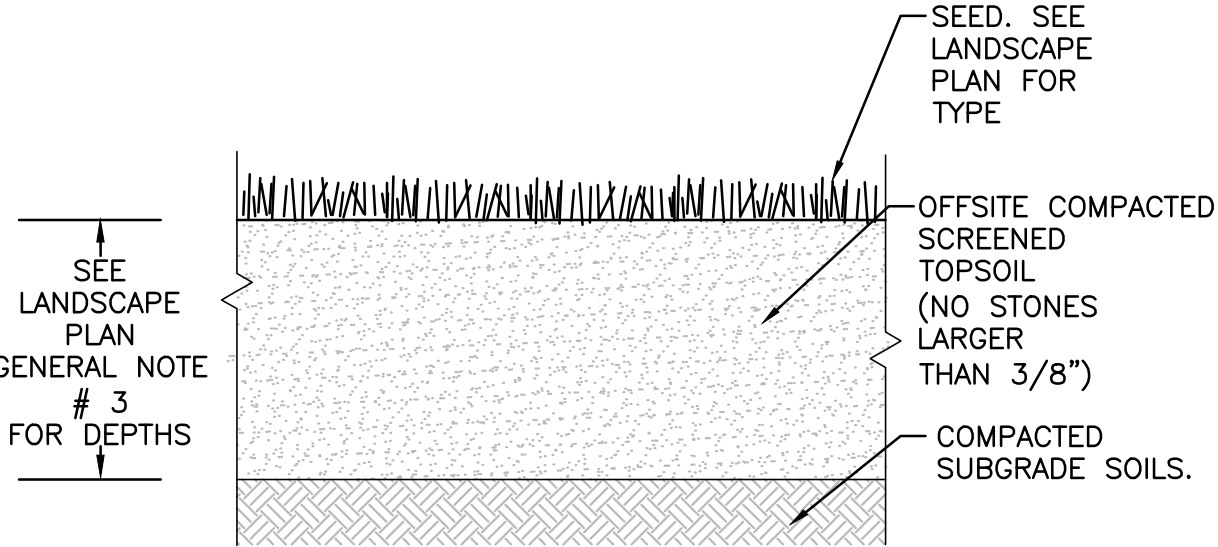
4. CONTRACTOR RESPONSIBLE FOR WATERING, MOWING, AND RE-SODDING OF LAWN BARE SPOTS UNTIL A UNIFORM, HEALTHY STAND OF GRASS IS ESTABLISHED AND ACCEPTED.

LANDSCAPE NOTES

- ALL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE TOWN OF ARLINGTON, MA.
- PLANTING PLAN IS DIAGRAMMATIC IN NATURE. FINAL PLACEMENT OF PLANTS TO BE APPROVED BY THE LANDSCAPE ARCHITECT IN THE FIELD.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL UTILITY COMPANIES, ANY PERMITTING AGENCIES, AND "DIG-SAFE" (1-888-344-7233) AT LEAST 72 HOURS IN ADVANCE OF ANY WORK THAT WILL REQUIRE EXCAVATION. CONTRACTOR SHALL NOTIFY THE OWNERS REPRESENTATIVE OF ANY CONFLICTS IN WRITING.
- NO PLANT MATERIAL SHALL BE INSTALLED UNTIL ALL GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA, ANY TREES NOTED AS "SEAL OR SELECTED SPECIMEN" SHALL BE TAGGED AND SEALED BY THE LANDSCAPE ARCHITECT.
- ALL TREES SHALL BE BALLED AND BURLAPPED (B&B) UNLESS OTHERWISE NOTED OR APPROVED BY THE OWNER'S REPRESENTATIVE AND LANDSCAPE ARCHITECT.
- CONTRACTOR SHALL VERIFY QUANTITIES SHOWN ON PLANT LIST. QUANTITIES SHOWN ON PLANS SHALL GOVERN OVER PLANT LIST.
- ANY PROPOSED PLANT SUBSTITUTIONS MUST BE APPROVED IN WRITING BY OWNER'S REPRESENTATIVE AND LANDSCAPE ARCHITECT.
- ALL PLANT MATERIALS INSTALLED SHALL MEET THE GUIDELINES ESTABLISHED BY THE STANDARDS FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
- ALL PLANT MATERIALS SHALL BE GUARANTEED FOR ONE YEAR FOLLOWING DATE OF ACCEPTANCE.

LANDSCAPE NOTES CONT.

- ALL DISTURBED AREAS NOT OTHERWISE NOTED SHALL RECEIVE 6" OF SUITABLE LOAM & SEED LAWNS WITH 3:1 OR GREATER SLOPES SHALL BE PROTECTED WITH AN EROSION CONTROL BLANKET.
- ANY FALL TRANSPLANTING HAZARD PLANTS SHALL BE DUG IN THE SPRING AND STORED FOR FALL PLANTING.
- TREES SHALL HAVE A MINIMUM CALIPER AS INDICATED ON THE PLANTING SCHEDULE TAKEN ONE FOOT ABOVE THE ROOT CROWN.
- ALL PLANT BEDS AND TREE SAUCERS TO RECEIVE 3" OF PINE BARK MULCH. GROUND COVER AREAS SHALL RECEIVE 1" OF PINE BARK MULCH
- ALL DECIDUOUS TREES ADJACENT TO WALKWAYS AND ROADWAYS SHALL HAVE A BRANCHING PATTERN TO ALLOW FOR A MINIMUM OF 7' OF CLEARANCE BETWEEN THE GROUND AND THE LOWEST BRANCH.
- ALL TREE STAKES SHALL BE STAINED DARK BROWN.
- CONTRACTOR RESPONSIBLE FOR WATERING, AND RESEEDING OF BARE SPOTS UNTIL A UNIFORM STAND OF VEGETATION IS ESTABLISHED AND ACCEPTED.
- ALL PARKING ISLANDS PLANTED WITH SHRUBS SHALL HAVE 24" OF TOP SOIL. FINISH GRADE SHALL BE EQUAL TO THE TOP OF CURB.
- SOIL SAMPLES, TESTS, AND SHOP DRAWINGS SHALL BE PROVIDED TO THE LANDSCAPE ARCHITECT OR THE OWNER FOR APPROVAL PRIOR TO CONSTRUCTION.
- AN MINIMUM 18" WIDE BARRIER OF 1" GRAY OR TAN PEASTONE SHALL BE INSTALLED IN ALL PLANT BEDS WHICH ABUT THE BUILDINGS. NO MULCH IS ALLOWED WITHIN 18" OF ALL BUILDINGS PER THE LATEST EXECUTIVE OFFICE OF PUBLIC SAFETY AND SECURITY DEPARTMENT OF FIRE SERVICES REGULATION (527 CMR 17.00). INSTALL 6" DEEP OF PEASTONE WITH MIRAFI WEED FABRIC BENEATH AND STEEL EDGING BETWEEN THE PEASTONE AND ADJACENT MULCH BED.
- ALL PROPOSED LANDSCAPE AREAS INCLUDING MOWED LAWNS, TREES, SHRUB BEDS, AND PERENNIALS SHALL BE PROVIDED WITH WATER EFFICIENT UNDERGROUND IRRIGATION. DESIGN AND INSTALLATION OF IRRIGATION SYSTEM TO BE PERFORMED BY AN APPROVED IRRIGATION DESIGN BUILD CONTRACTOR OR BY AN APPROVED EQUAL, TO BE DETERMINED BY THE OWNERS REPRESENTATIVE AND LANDSCAPE ARCHITECT. IRRIGATION SYSTEM IS TO BE DESIGNED FOR EFFICIENT WATER USAGE INCLUDING: USE OF DRIP IRRIGATION FOR SHRUBS AND PERENNIALS, IRRIGATION SYSTEM WITH HEAD-TO-HEAD COVERAGE, A CENTRAL SHUT-OFF VALVE, AND A RAIN SENSOR TO SHUT OFF IRRIGATION DURING RAIN EVENTS.



| TEXTURE CLASS | % OF TOTAL WEIGHT |
|---------------|-------------------|
| SAND | 45% - 65% |
| SILT | 15% - 35% |
| CLAY | 5% - 20% |

| SIEVE | % PASSING |
|---------|--------------|
| 3/8" | 100 |
| NO. 4 | 85-100 |
| NO. 40 | 60-85 |
| NO. 100 | 38-60 |
| NO. 200 | 10-35 |
| 20 um | LESS THAN 5% |

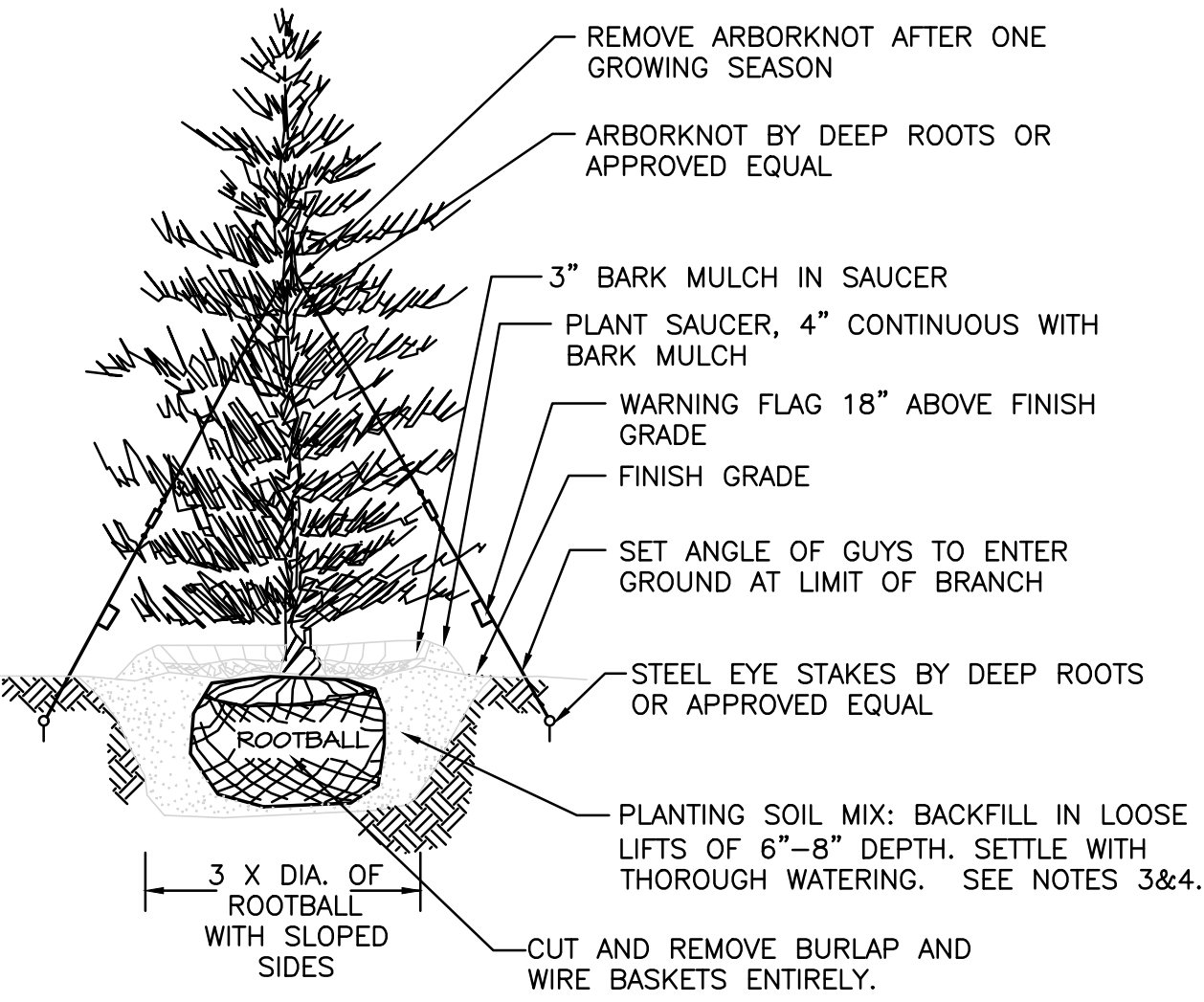
NOTES:

- TOP OF LOAM (TOPSOIL) IS FINISH GRADE.
- ALL TOPSOIL (BOTH ONSITE AND OFFSITE SOURCES) SHALL BE COMPOSED OF A NATURAL, FERTILE, FRIABLE SOIL TYPICAL OF CULTIVATED TOPSOILS OF THE LOCALITY. OFFSITE SOIL SHALL BE SUITABLE FOR THE GERMINATION OF SEEDS AND SUPPORT OF VEGETATIVE GROWTH, WITH ADDITIVES, IF REQUIRED, TO ACHIEVE PARTICLE DISTRIBUTION AND ORGANIC CONTENT BELOW. TOPSOIL SHALL BE TAKEN FROM A WELL-DRAINED, ARIABLE SITE, FREE OF SUBSOIL, LARGE STONES, EARTH CLOUDS, STICKS, STUMPS, CLAY LUMPS, ROOTS, OTHER OBJECTIONABLE, EXTRANEIOUS MATTER OR DEBRIS NOR CONTAIN TOXIC SUBSTANCES.
- THE CONTRACTOR SHALL PROVIDE THE OWNER / LANDSCAPE ARCHITECT WITH TOPSOIL TEST RESULTS (RECOMMEND UMASS AMHERST SOIL TESTING LAB) FOR APPROVAL PRIOR TO OBTAINING AND PLACING THE SOIL. IF ANY TOPSOIL IS PURCHASED OR PLACED PRIOR TO APPROVAL BY OWNER / LANDSCAPE ARCHITECT, IT IS AT CONTRACTORS RISK, AND IT CAN BE REMOVED AT NO ADDITIONAL COST TO THE OWNER. IF THE PLANTING SOIL (BOTH ONSITE AND OFFSITE SOURCES) DOES NOT FALL WITHIN THE REQUIRED SIEVE ANALYSIS, TEXTURAL CLASS, ORGANIC CONTENT, OR PH RANGE, IT SHALL BE ADJUSTED TO MEET THE SPECIFICATIONS THROUGH THE ADDITION OF SAND, COMPOST, LIMESTONE, OR ALUMINUM SULFATE TO BRING IT WITHIN THE SPECIFIED LIMITS AT NO ADDITIONAL COST TO THE OWNER.
- TOPSOIL SHALL HAVE A PH VALUE BETWEEN 5.5 AND 6.5. TOPSOIL SHALL CONTAIN BETWEEN 4% AND 8% ORGANIC MATTER OF TOTAL DRY WEIGHT AND SHALL CONFORM TO THE FOLLOWING GRADATION AND TEXTURE CLASS ABOVE.

TOPSOIL FOR LAWN, TREES, SHRUBS, & PERENNIALS

NOT TO SCALE

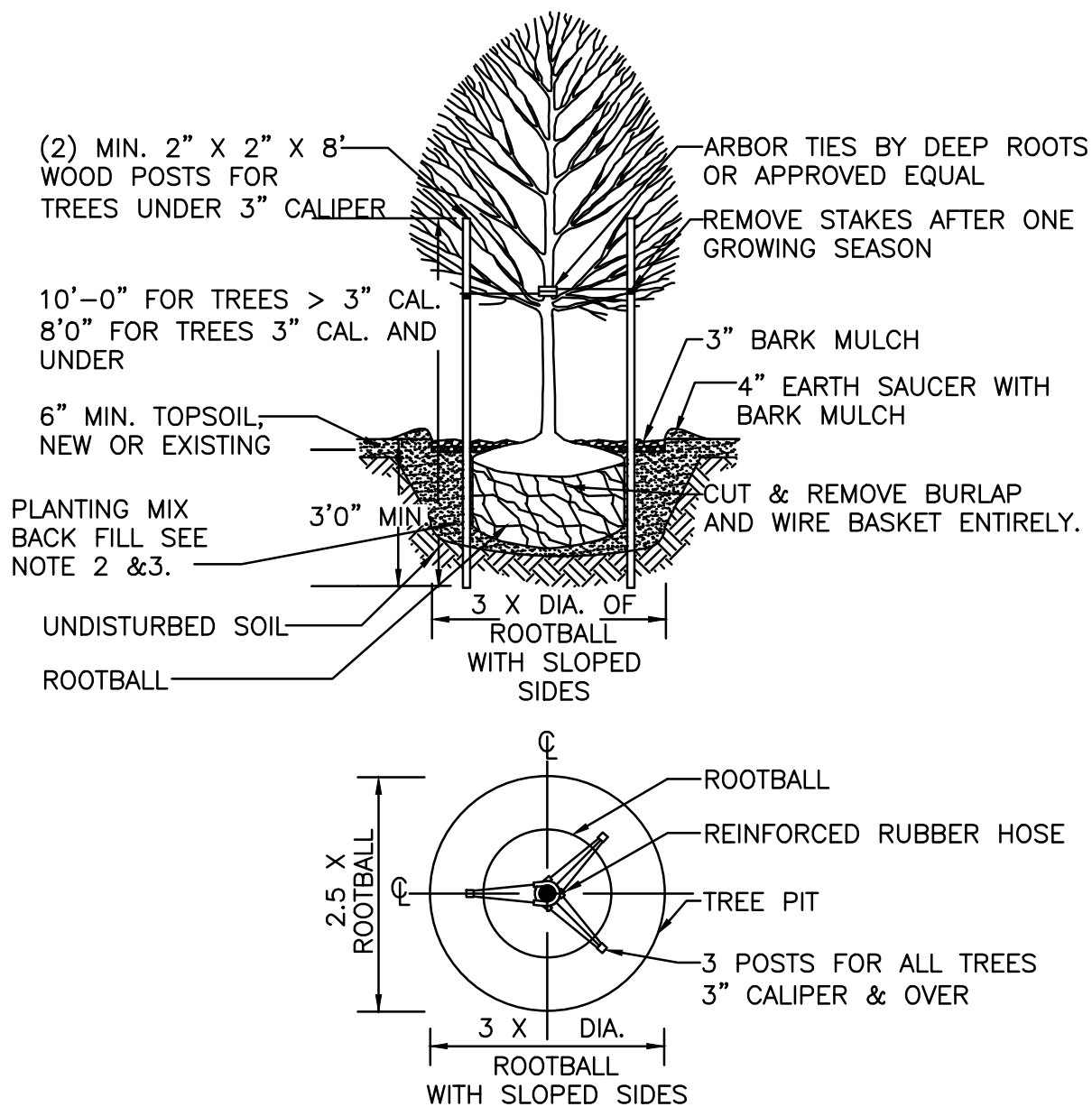
2



EVERGREEN TREE DETAIL

NOT TO SCALE

1



DECIDUOUS TREE PLANTING DETAIL

NOT TO SCALE

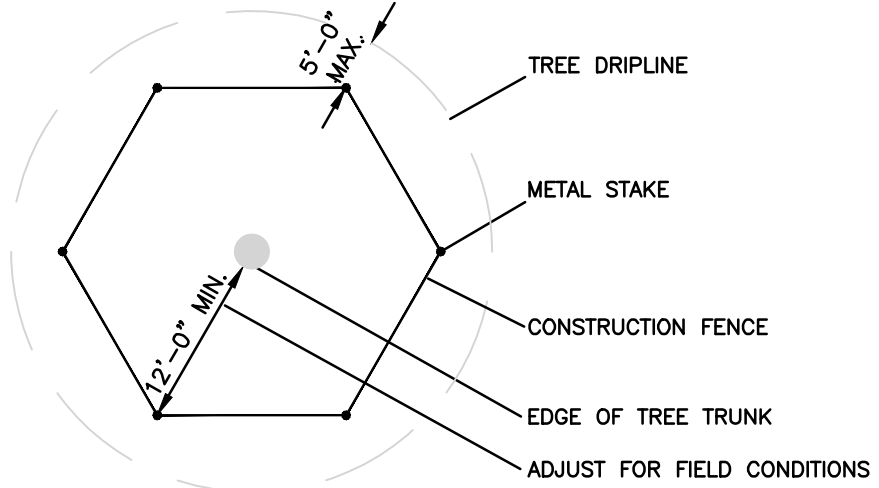
3

NOTES

- TREES SHALL BEAR SAME RELATIONSHIP TO FINISH GRADE AS IT BORE TO NURSERY OR FIELD GRADE. ROOT FLARE SHALL BE 2" ABOVE FINISH GRADE. REMOVE SOIL FROM TRUNK FLARE OF TREE TO DETERMINE ACTUAL TOP OF ROOTBALL AREA.
- INSTALL THREE GUYS PER TREE; EQUALLY SPACED AROUND BALL.
- ATTACH GUYS AT 2/3 HEIGHT OF TREE.
- BACKFILL WITH PLANTING MIX. PLANT MIX TO BE: 50% NATIVE TOPSOIL, 20% COMPOST (LEAVES & ORGANIC MATERIAL, NO ASH) 20% PEAT MOSS, 10% SAND.
- ADD MYCORRHIZA SOIL ADDITIVES AND SLOW RELEASE FERTILIZER WHEN PLANT HOLES ARE 50% FILLED AND WATER THOROUGHLY AT COMPLETION.

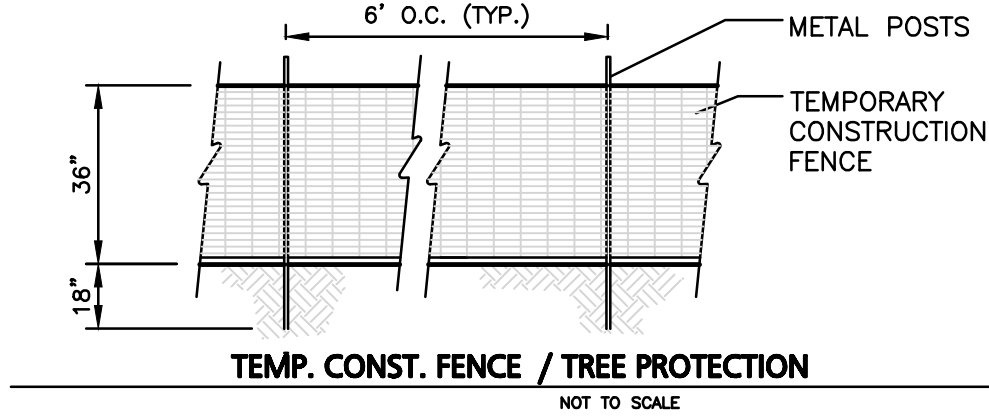
NOTES:

- ALL TREES SHALL HAVE THE SAME RELATIONSHIP TO FINISH GRADE AFTER PLANTING AS THEY HAD AT THE ORIGINAL NURSERY SETTING. ROOT FLARE SHALL BE 2" ABOVE FINISH GRADE. REMOVE SOIL FROM TRUNK FLARE OF TREE TO DETERMINE ACTUAL ROOTBALL AREA.
- BACKFILL WITH PLANTING MIX. PLANT MIX TO BE: 50% NATIVE TOPSOIL, 20% COMPOST (LEAVES & ORGANIC MATERIAL, NO ASH) 20% PEAT MOSS, 10% SAND.
- ADD MYCORRHIZA SOIL ADDITIVES AND SLOW RELEASE FERTILIZER WHEN PLANT HOLES ARE 50% FILLED AND WATER THOROUGHLY AT COMPLETION.



NOTE:

- CONSTRUCTION FENCE TO BE "VISUAL BARRIER FENCE" AS MANUFACTURED BY EXXON CHEMICAL COMPANY ATLANTA, GA; "KONTROL SAFETY FENCE" AS MANUFACTURED BY MIRAFI, CHARLOTTE, N.C. OR APPROVED EQUAL.
- IF GROUPS OF TREES ARE TO BE PROTECTED, EXTEND FENCE AROUND PERIMETER TO CONFORM TO MINIMUM DIMENSIONS FOR TREE TRUNKS AND DRIPLINE.



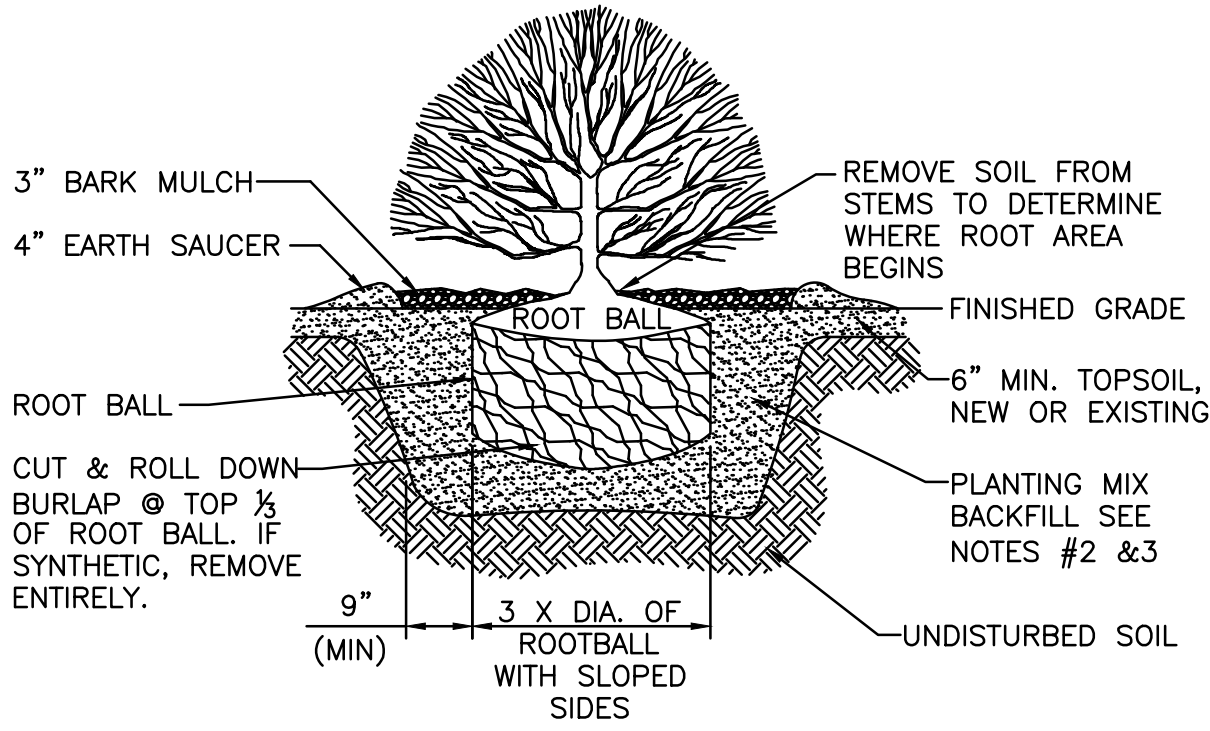
TEMP. CONST. FENCE / TREE PROTECTION

NOT TO SCALE

4

NOTES:

- ALL SHRUBS SHALL HAVE THE SAME RELATIONSHIP TO FINISH GRADE AFTER PLANTING AS THEY HAD AT THE ORIGINAL NURSERY SETTING. SET SHRUB 1"-2" ABOVE FINISH GRADE.
- BACKFILL WITH PLANTING MIX. PLANT MIX TO BE: 50% NATIVE TOPSOIL, 20% COMPOST (LEAVES & ORGANIC MATERIAL, NO ASH) 20% PEAT MOSS, 10% SAND.
- ADD MYCORRHIZA SOIL ADDITIVES AND SLOW RELEASE FERTILIZER WHEN PLANT HOLES ARE 50% FILLED AND WATER THOROUGHLY AT COMPLETION.
- SHRUB BEDS TO HAVE 24" MIN. OF CONTINUOUS PLANTING SOIL.

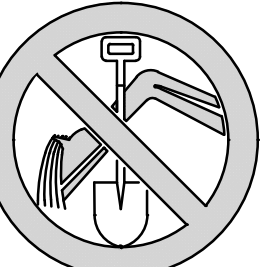


SHRUB PLANTING DETAIL

NOT TO SCALE

5

DIG SAFE



BEFORE YOU DIG
CALL 811 OR
1-888-DIG-SAFE
1-888-344-7233



REGISTERED LANDSCAPE ARCHITECT FOR
ALLEN & MAJOR ASSOCIATES, INC.

| REV | DATE | DESCRIPTION |
|-----|------|-------------|
|-----|------|-------------|

192-200 MASSACHUSETTS AVE, LLC
455 MASSACHUSETTS AVE, STE 1
ARLINGTON, MA 02474

PROJECT:

190 & 192-200
MASSACHUSETTS AVE
ARLINGTON, MA 02476

| | | | |
|-------------|---------|-------|------------|
| PROJECT NO. | 2729-02 | DATE: | 10/23/2020 |
|-------------|---------|-------|------------|

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|--------|-----|------------|----------|
| SCALE: | NTS | DWG. NAME: | C2729-02 |
|--------|-----|------------|----------|

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|--------------|-----|-------------|-----|
| DESIGNED BY: | BCD | CHECKED BY: | BDJ |
|--------------|-----|-------------|-----|

PREPARED BY:

ALLEN & MAJOR ASSOCIATES, INC.
civil engineering • land surveying
environmental consulting • landscape architecture
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TEL: (781) 935-6889
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WOBURN, MA • LAKEVILLE, MA • MANCHESTER, NH

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LANDSCAPE DETAILS

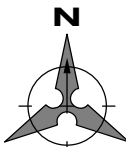
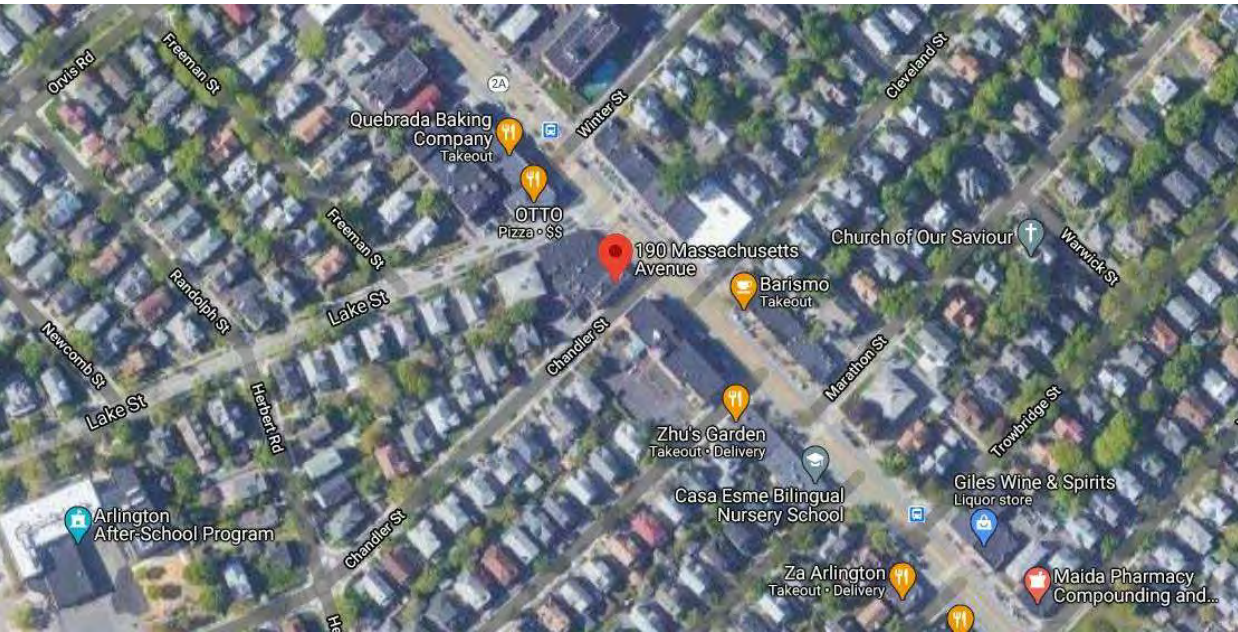
L-501

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PERSPECTIVE VIEW:



AERIAL SITE PLAN:



DRAWING LIST

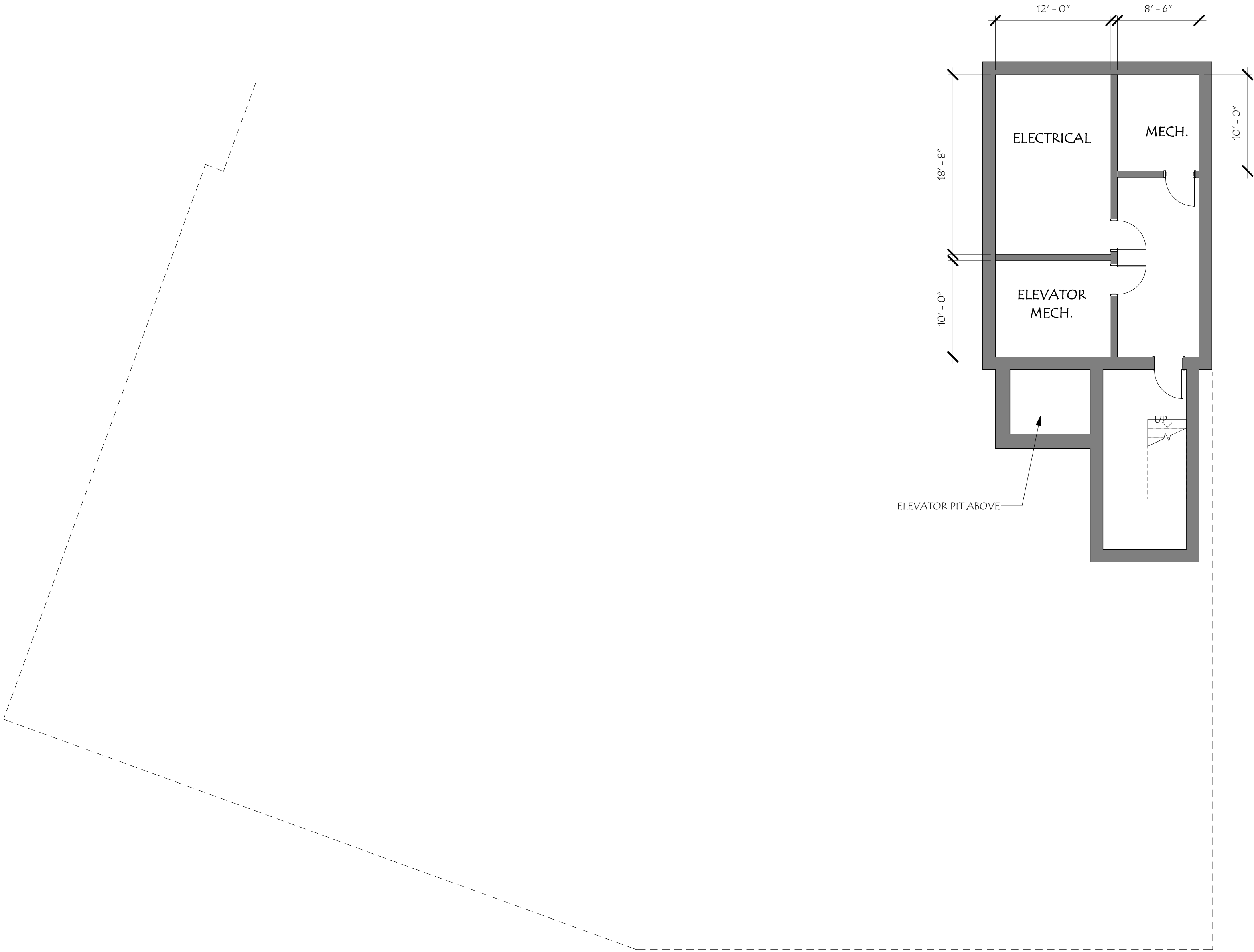
| ARCHITECTURAL | |
|---------------|-----------------------------|
| A1.00 | OVERALL PLAN - BASEMENT |
| A1.01 | OVERALL PLAN - FIRST FLOOR |
| A1.02 | OVERALL PLAN - SECOND FLOOR |
| A1.03 | OVERALL PLAN - THIRD FLOOR |
| A1.04 | OVERALL PLAN - FOURTH FLOOR |
| A1.05 | OVERALL PLAN - FIFTH FLOOR |
| A1.06 | OVERALL PLAN - ROOF |
| A2.01 | BUILDING ELEVATIONS |
| A9.01 | STREET ELEVATIONS |
| A9.02 | BANK CORNER RENDER |
| A9.03 | COMMERCIAL CORNER RENDER |
| A9.04 | ROOF DECK RENDER |
| A9.05 | SOLAR STUDIES |

| REVISION |
|----------|
| DATE |

200 MASS AVE MULTI

190-200 MASSACHUSETTS AVE
ARLINGTON, MA

1 OVERALL PLAN - BASEMENT
1/8" = 1'-0"



Title:
OVERALL PLAN -
BASEMENT

A1.00

Scale:
Drawn By: PPS
Checked By: ALW
Project No.: 2020051
Date: 03/01/21

| Revisions: | | |
|------------|-------------|------|
| # | Description | Date |
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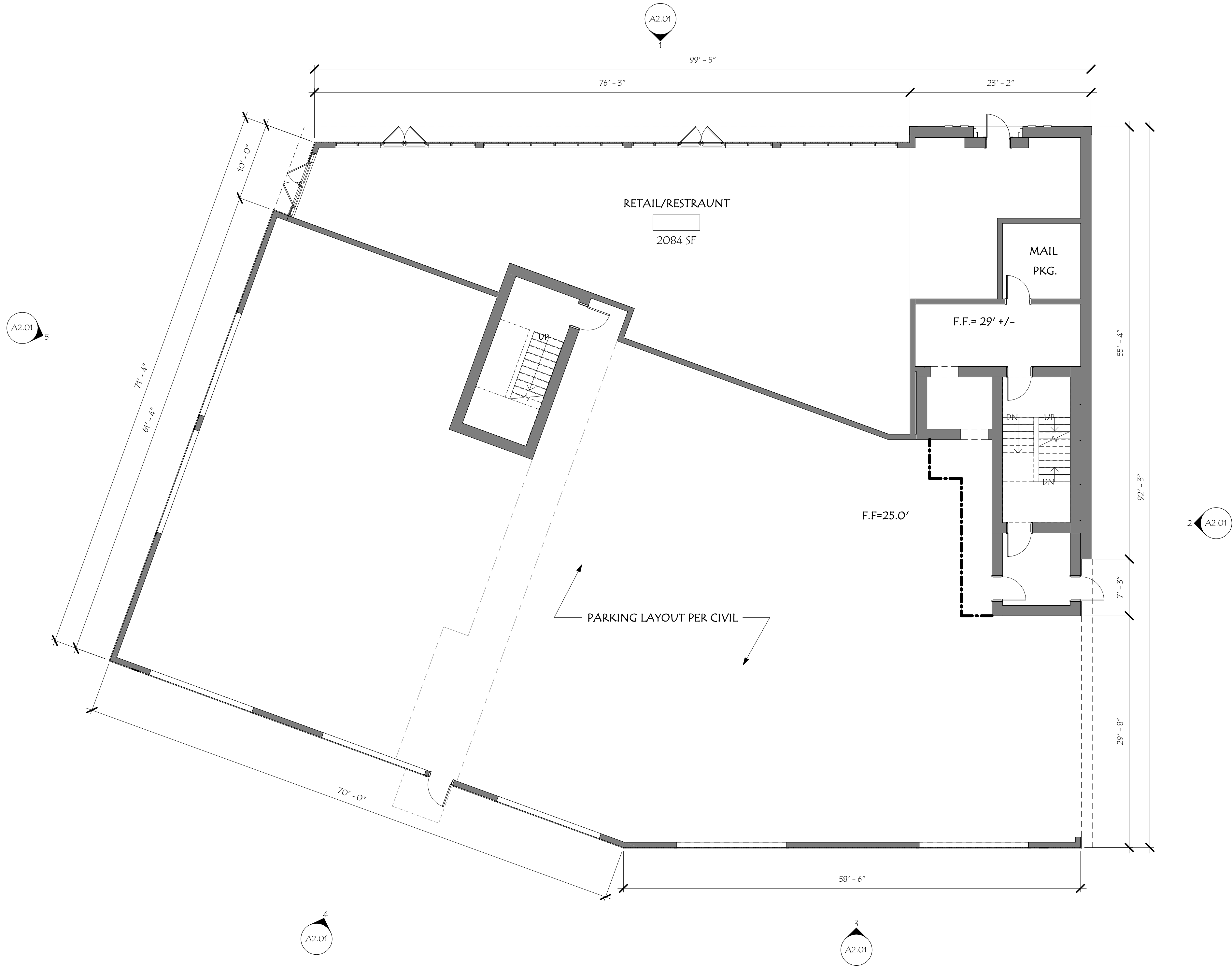
200 MASS AVE MULTI

190-200 MASSACHUSETTS AVE
ARLINGTON, MA

NOT FOR
CONSTRUCTION



1 OVERALL PLAN - 1ST FLOOR
1/8" = 1'-0"



Title:
OVERALL PLAN -
FIRST FLOOR

A1.01

| | | | | |
|--------------|--------------|------------|-------------|------|
| Scale: | 1/8" = 1'-0" | Revisions: | | |
| Drawn By: | PPS | # | Description | Date |
| Checked By: | ALW | | | |
| Project No.: | 2020051 | | | |
| Date: | 03/01/21 | | | |

200 MASS AVE MULTI

190-200 MASSACHUSETTS AVE
ARLINGTON, MA

NOT FOR
CONSTRUCTION



190-200 MASSACHUSETTS AVE
ARLINGTON, MA

NOTE:
PRELIMINARY UNIT INTERNAL LAYOUT SHOWN, FINAL LAYOUT MAY VARY



Title:
OVERALL PLAN -
SECOND FLOOR

NOT FOR
CONSTRUCTION

200 MASS AVE MULTI
190-200 MASSACHUSETTS AVE
ARLINGTON, MA

| Revisions: | # | Description | Date |
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| Scale: | 1/8" = 1'-0" |
| Drawn By: | PPS |
| Checked By: | ALW |
| Project No.: | 2020051 |
| Date: | 03/01/21 |

Title:
OVERALL PLAN -
THIRD FLOOR

A1.03

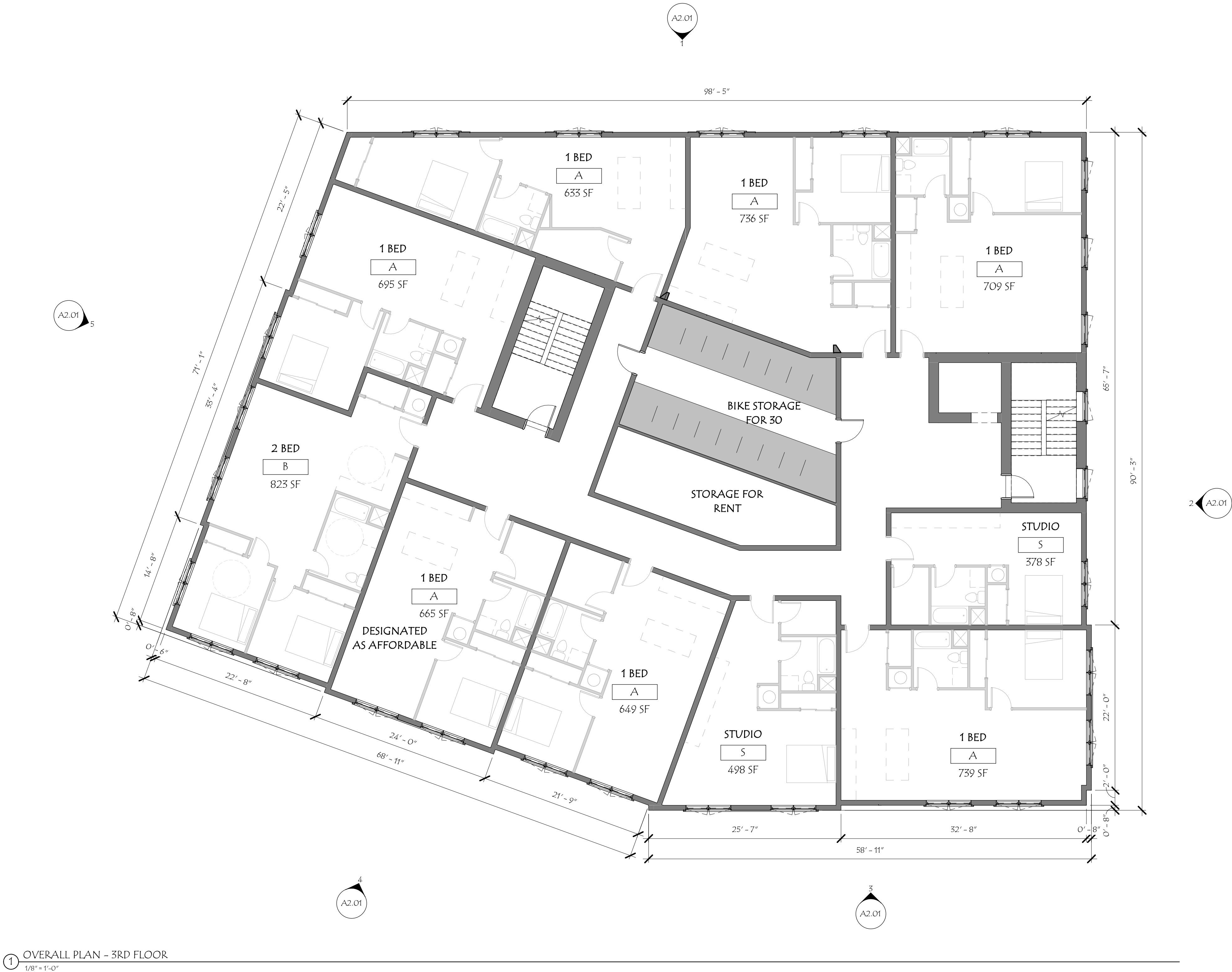
UNIT MATRIX:

| | # | % |
|--------------|---------|-----|
| THIRD FLOOR: | | |
| STUDIO | 2 UNIT | 20% |
| 1 BED | 7 UNITS | 70% |
| 2 BED | 1 UNIT | 10% |

| | | |
|--------|----------|-----|
| TOTAL: | | |
| STUDIO | 10 UNITS | 27% |
| 1 BED | 23 UNITS | 62% |
| 2 BED | 4 UNITS | 11% |

| | |
|-------|----------|
| TOTAL | 37 UNITS |
|-------|----------|

NOTE:
PRELIMINARY UNIT INTERNAL LAYOUT SHOWN, FINAL LAYOUT MAY VARY



1 OVERALL PLAN - 3RD FLOOR
1/8" = 1'-0"

1 OVERALL PLAN - 4TH FLOOR
1/8" = 1'-0"



Title:
OVERALL PLAN -
FOURTH FLOOR

A1.04

Scale:
1/8" = 1'-0"

Drawn By:

Checked By:

Project No.:

Date:

Revisions:

Description

Date

200 MASS AVE MULTI

190-200 MASSACHUSETTS AVE
ARLINGTON, MA

NOT FOR
CONSTRUCTION

1 OVERALL PLAN - 5TH FLOOR
1/8" = 1'-0"



UNIT MATRIX:

| | # | % |
|--------------|----------|-----|
| FIFTH FLOOR: | | |
| STUDIO | 4 UNIT | 44% |
| 1 BED | 4 UNITS | 44% |
| 2 BED | 1 UNIT | 11% |
| TOTAL: | | |
| STUDIO | 10 UNITS | 27% |
| 1 BED | 23 UNITS | 62% |
| 2 BED | 4 UNITS | 11% |
| TOTAL | 37 UNITS | |

NOTE:
PRELIMINARY UNIT INTERNAL LAYOUT SHOWN, FINAL LAYOUT MAY VARY



NOT FOR
CONSTRUCTION

200 MASS AVE MULTI
190-200 MASSACHUSETTS AVE
ARLINGTON, MA

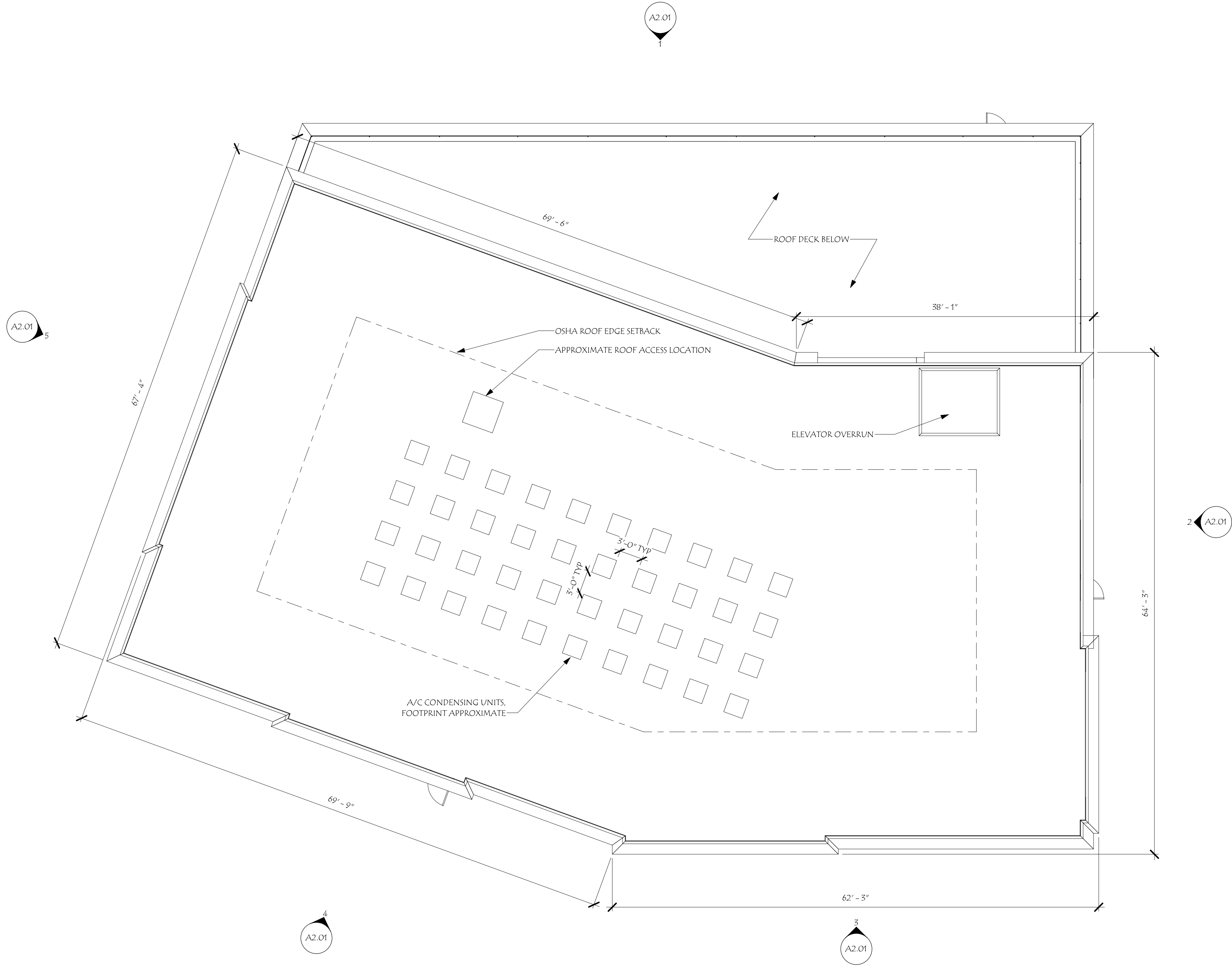
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| 1/8" = 1'-0" | PPS | ALW | 2020051 | 03/01/21 |
| Scale: | Drawn By: | Checked By: | Project No.: | Date: |

Title:
OVERALL PLAN -
FIFTH FLOOR

A1.05

1 OVERALL PLAN - ROOF
1/8" = 1'-0"



Title:
OVERALL PLAN -
ROOF

A1.06

Scale:
Drawn By:
Checked By:
Project No.:
Date:

1/8" = 1'-0"
PPS
ALW
2020051
03/01/21

| Revisions: # | Description | Date |
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200 MASS AVE MULTI
190-200 MASSACHUSETTS AVE
ARLINGTON, MA

NOT FOR
CONSTRUCTION

NOT FOR
CONSTRUCTION

200 MASS AVE MULTI

190-200 MASSACHUSETTS AVE
ARLINGTON, MA

| Revisions: | | | Date |
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| Scale: | 3/32" = 1'-0" |
| Drawn By: | PPS |
| Checked By: | ALW |
| Project No.: | 2020051 |
| Date: | 03/01/21 |

| | |
|----------------------------------|-------|
| Title: BUILDING ELEVATIONS | A2.01 |
| | |

- MATERIAL NOTES:
- BRICK BASE TO MATCH EXISTING BRICK BANK.
 - PAINTED FIBER CEMENT PANEL, TYP. UPPER STORIES.
 - CORNICE/TRIM TO BE FIBER CEMENT OR AZEK WITH METAL FLASHING PAINTED TO MATCH.



NOTE:
CONTEXT BUILDING HEIGHTS AND ELEVATIONS APPROXIMATED.

NOT FOR
CONSTRUCTION

200 MASS AVE MULTI

190-200 MASSACHUSETTS AVE
ARLINGTON, MA

| Revisions: | | |
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|-------------|-----------|-------------|--------------|----------|
| 1" = 20'-0" | PPS | ALW | 2020051 | 03/01/21 |
| Scale: | Drawn By: | Checked By: | Project No.: | Date: |

| | |
|-----------------------------|-------|
| Title: STREET ELEVATIONS | A9.01 |
| | |



③ CHANDLER STREET ELEVATION
1" = 20'-0"



② LAKE STREET ELEVATION
1" = 20'-0"



① MASS AVE STREET ELEVATION
1" = 20'-0"



NOT FOR
CONSTRUCTION

200 MASS AVE MULTI

190-200 MASSACHUSETTS AVE
ARLINGTON, MA

| Revisions: | | |
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| Scale: | PPS |
| Drawn By: | ALW |
| Checked By: | 2020051 |
| Project No.: | 03/01/21 |
| Date: | |

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|---------------------------------|-------|
| Title: BANK CORNER RENDER | A9.02 |
| | |



NOT FOR
CONSTRUCTION

200 MASS AVE MULTI

190-200 MASSACHUSETTS AVE
ARLINGTON, MA

| Revisions: | | Date |
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| Drawn By: | ALW |
| Checked By: | 2020051 |
| Project No.: | 03/01/21 |
| Date: | |

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|---------------------------------------|-------|
| Title: COMMERCIAL CORNER RENDER | |
| | A9.03 |



Title:
ROOF DECK RENDER

A9.04

Scale:
Drawn By:
Checked By:
Project No.:
Date:

PPS
ALW
2020051
03/01/21

| Revisions: | | | |
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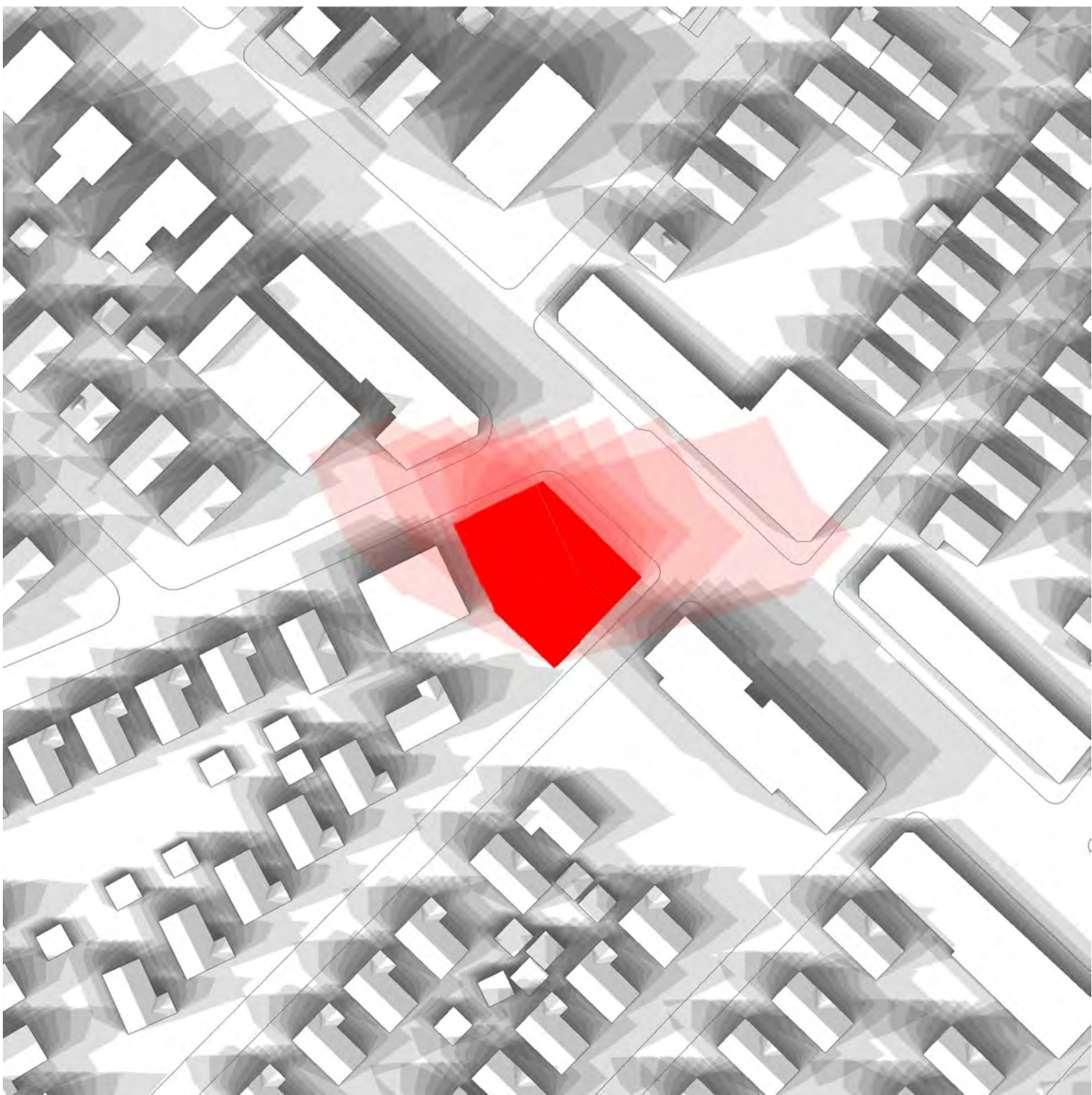
200 MASS AVE MULTI

190-200 MASSACHUSETTS AVE
ARLINGTON, MA

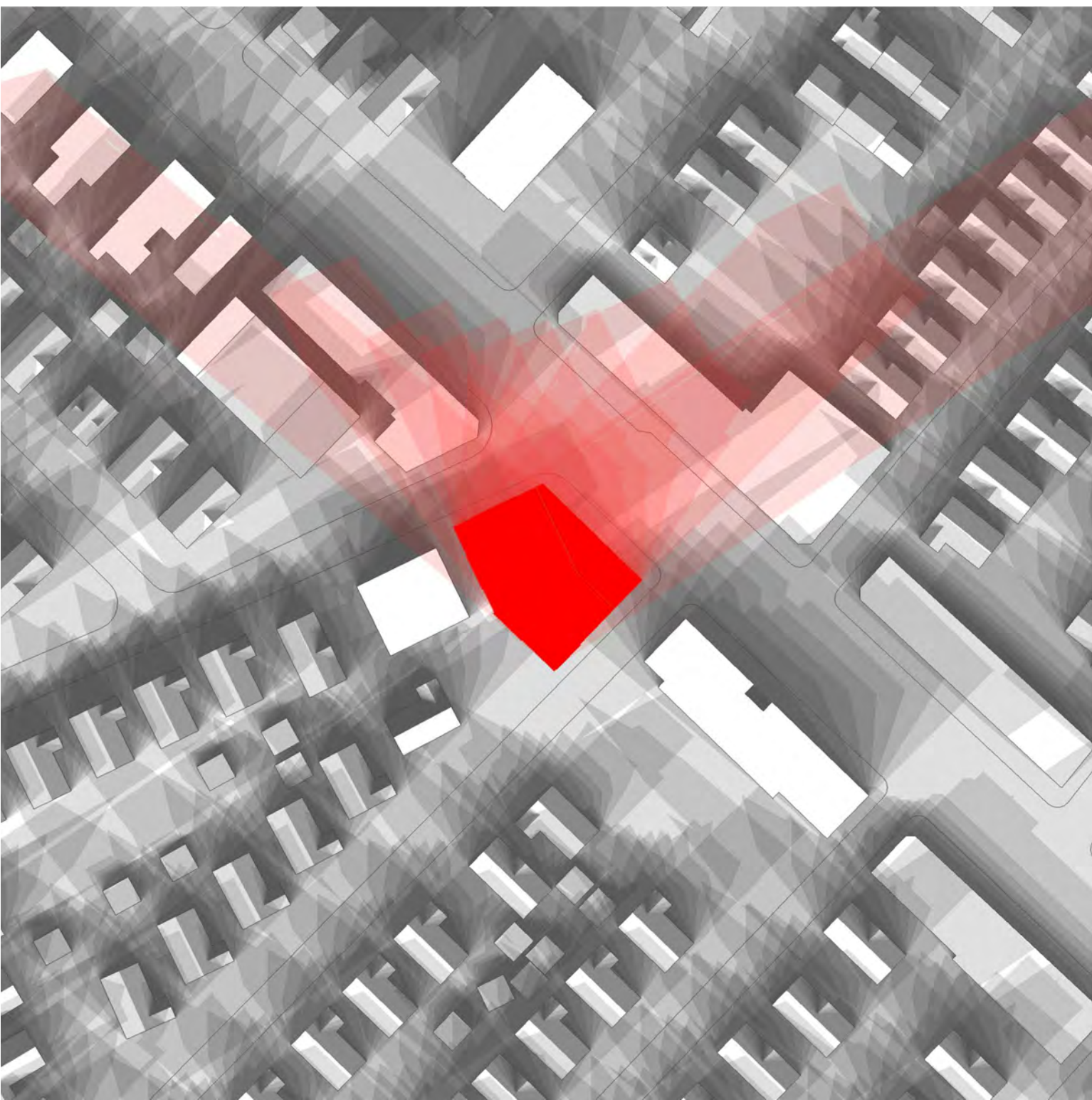
NOT FOR
CONSTRUCTION



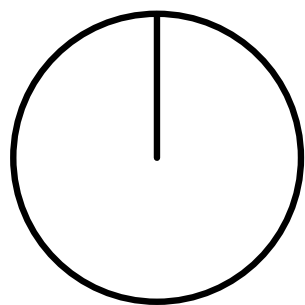
SUMMER
8:00AM - 4:00PM UTC-5



SPRING/FALL
8:00AM - 4:00PM UTC-5



WINTER
8:00AM - 4:00PM UTC-5



NOTE:
THE BUILDING AND LANDSCAPE SHADOWS ILLUSTRATED IN THE RENDERINGS BELOW ARE DIGITALLY GENERATED AND THEORETICAL REPRESENTATIONS OF THOSE SHADOWS CAST AT A SPECIFIC MOMENT IN TIME ON A SPECIFIC DAY. WHILE ACCURATE TO THE INPUT CALENDAR AND SUN LOCATION DATA, THE ACTUAL PERCEPTION OF SHADOWS INCLUDING THEIR SIZE, SHAPE AND INTENSITY OR DARKNESS, MAY BE SUBJECTIVE AND VARIABLE TO THE SPECIFIC OBSERVER. AS SUCH, THIS INFORMATION SHOULD BE UTILIZED AS GENERAL COMMENTARY, AND CAUSE FOR FURTHER DISCUSSION OR STUDY AS NEEDED.

NOT FOR
CONSTRUCTION

200 MASS AVE MULTI

190-200 MASSACHUSETTS AVE
ARLINGTON, MA

| Revisions: | | | |
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| Drawn By: | ALW |
| Checked By: | 2020051 |
| Project No.: | 03/01/21 |
| Date: | |

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| Title: SOLAR STUDIES | A9.05 |
| | |

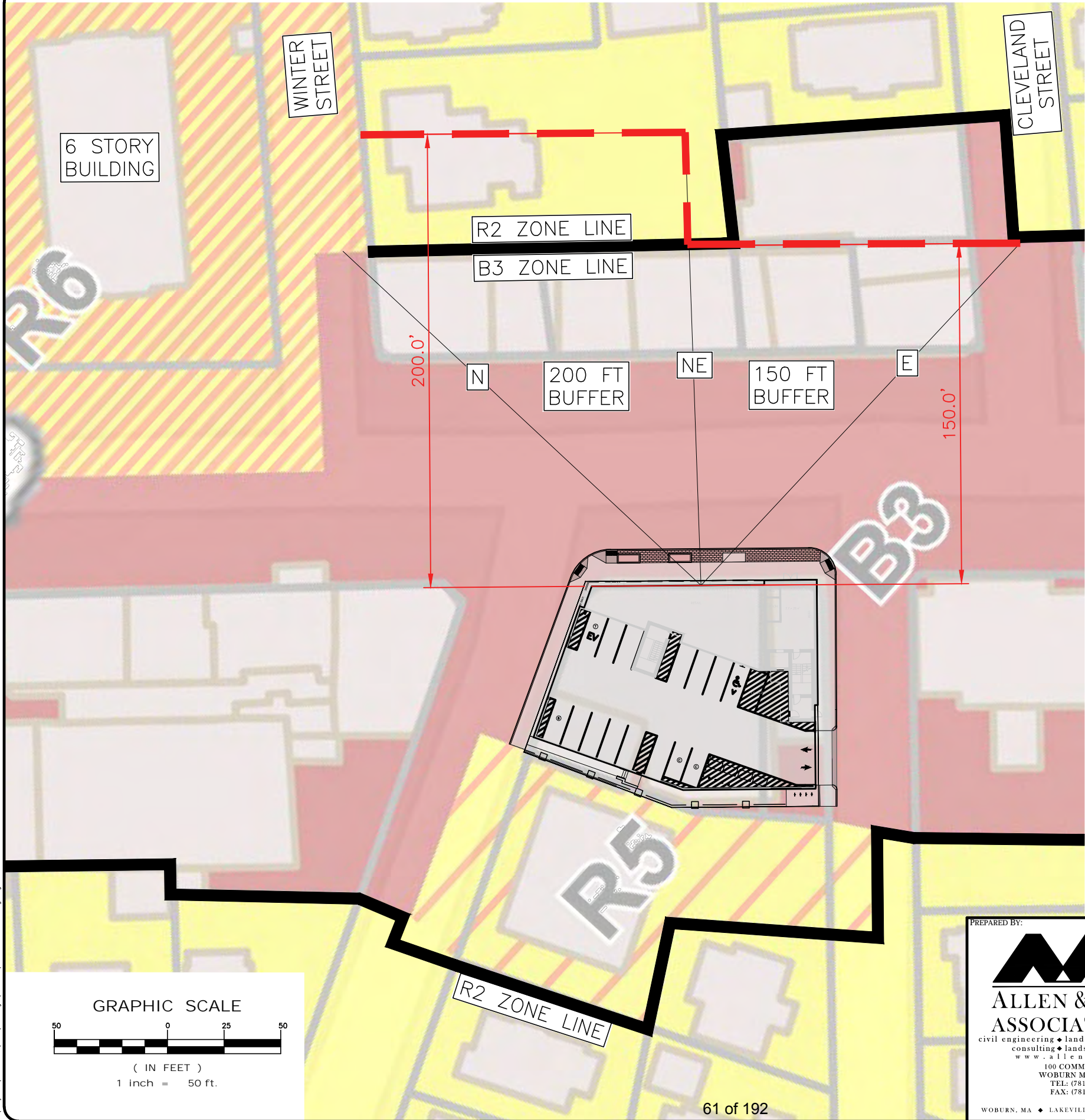


Market Square Architects investigated the impact of the greater maximum height limit as proposed through two methods.

Solar studies were conducted on the Solstices and the Equinoxes, from 8:00AM to 4:00 PM UTC-5; topography and existing structures were included in the model, and conclusions were drawn by extrapolating this data. These studies demonstrate that the proposed structure will only cast shadows on existing structures in a R2 zone during the evenings of winter months, when long shadows are already cast by existing structures and foliage. Furthermore, the specific properties of these existing structures (Cleveland St.) are farther than the boundary which triggers the height buffer (see FIG-01, Allen & Major Associates), such that no existing structure in an R2 zone close enough to trigger the height buffer is anticipated to be impacted by a shadow.

Massing studies were conducted to understand the context of the neighborhood. While the existing use of this specific site is shorter than proposed, the existing use of the surrounding context and neighborhood precedents a building of this proposed massing. An existing 5 story structure (215 Massachusetts Ave) stands on a lot roughly two hundred feet diagonally from the proposed construction. Observing the surrounding context, the proposed building exaggerates the required upper story stepback, minimizing the impact of the taller structure and creating a pedestrian friendly streetscape along Mass Ave which harmonizes with the massing of the adjacent existing structures (Capitol Theater, 204 Massachusetts Ave, and Leader Bank Corporate Offices, 180 Massachusetts Ave). The building does not immediately abut a R2 zoned property, therefor we believe an adequate buffer remains between the proposed construction and existing R2 lots.

Conclusively, we believe that utilizing the taller maximum height allowed would have minimal impact on the nearby R2 lots.

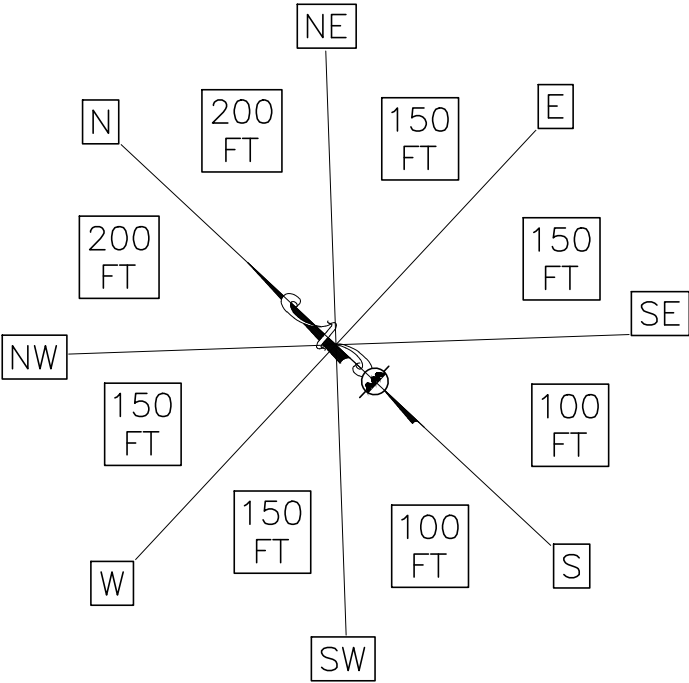


5.3.19. Reduced Height Buffer Area

- A. When two different maximum height limits are specified for the same zoning district in any Table of Dimensional and Density Regulations in this Section 5, the lower limit shall apply to any lot or part of a lot located in a height buffer area unless it is determined as a specific finding of a special permit that the properties in the adjacent R0, R1, R2, or OS district would not be adversely affected due to existing use or topographic condition. A height buffer area is defined as a lot or part of a lot which is located at a lesser distance from any land, not within a public way, in an R0, R1, R2 or OS district than the following:

5-10 / DISTRICTS & USES

| Land in R0, R1, R2, OS is located | Lower height shall apply |
|--|--------------------------|
| Between northwest and northeast | Within 200 feet |
| Easterly, between northeast and southeast, or westerly between northwest and southwest | Within 150 feet |
| Southerly, between southeast and southwest | Within 100 feet |



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PROJECT:
**190 & 192-200
MASSACHUSETTS AVE**

APPLICANT/OWNER: **192-200 MASSACHUSETTS AVE, LLC**

NORTHERN REDUCED HEIGHT BUFFER

PROJECT NO. 2729-02 DATE: 10/28/2020

SCALE: 1"=50' SHEET REF: -

DESIGNED BY: ARM CHECKED BY: -

FIGURE No.
FIG-01

PREPARED BY:

**ALLEN & MAJOR
ASSOCIATES, INC.**
civil engineering • land surveying environmental
consulting • landscape architecture
www.allenmajor.com
100 COMMERCE WAY
WOBURN, MA 01888-0118
TEL: (781) 935-6889
FAX: (781) 935-2896
WOBURN, MA • LAKEVILLE, MA • MANCHESTER, NH



LEED v4 for Building Design and Construction: Homes and Multifamily Lowrise

Project Checklist

Project Name: 190-200 Massachusetts Ave, Arlington, MA 02476

Date: 12/18/2020

Y ? N
Y

Credit Integrative Process

2

9 6 0 Location and Transportation 15

Y Prereq Floodplain Avoidance Required

PERFORMANCE PATH

Credit LEED for Neighborhood Development Location 15

PRESCRIPTIVE PATH

4 4 Credit Site Selection 8

3 Credit Compact Development 3

2 Credit Community Resources 2

2 Credit Access to Transit 2

2 2 3 Sustainable Sites 7

Y Prereq Construction Activity Pollution Prevention Required

Y Prereq No Invasive Plants Required

1 1 Credit Heat Island Reduction 2

1 2 Credit Rainwater Management 3

2 Credit Non-Toxic Pest Control 2

4 4 2 Water Efficiency 12

Y Prereq Water Metering Required

PERFORMANCE PATH

Credit Total Water Use 12

PRESCRIPTIVE PATH

4 2 Credit Indoor Water Use 6

4 Credit Outdoor Water Use 4

10 21 6 Energy and Atmosphere 38

Y Prereq Minimum Energy Performance Required

Y Prereq Energy Metering Required

Y Prereq Education of the Homeowner, Tenant or Building Manager Required

PERFORMANCE PATH

Credit Annual Energy Use 29

BOTH PATHS

2 3 Credit Efficient Hot Water Distribution System 5

1 1 Credit Advanced Utility Tracking 2

1 Credit Active Solar Ready Design 1

1 Credit HVAC Start-Up Credentialing 1

PRESCRIPTIVE PATH

Y Prereq Home Size Required

1 2 Credit Building Orientation for Passive Solar 3

2 Credit Air Infiltration 2

2 Credit Envelope Insulation 2

3 Credit Windows 3

2 2 Credit Space Heating & Cooling Equipment 4

EA PRESCRIPTIVE PATH (continued)

3 Credit Heating & Cooling Distribution Systems 3

2 1 Credit Efficient Domestic Hot Water Equipment 3

2 Credit Lighting 2

2 Credit High Efficiency Appliances 2

4 Credit Renewable Energy 4

5 4 1 Materials and Resources 10

Y Prereq Certified Tropical Wood Required

Y Prereq Durability Management Required

1 Credit Durability Management Verification 1

2 2 Credit Environmentally Preferable Products 4

3 Credit Construction Waste Management 3

1 1 Credit Material Efficient Framing 2

9 5 2 Indoor Environmental Quality 16

Y Prereq Ventilation Required

Y Prereq Combustion Venting Required

Y Prereq Garage Pollutant Protection Required

Y Prereq Radon-Resistant Construction Required

Y Prereq Air Filtering Required

Y Prereq Environmental Tobacco Smoke Required

Y Prereq Compartmentalization Required

2 1 Credit Enhanced Ventilation 3

2 Credit Contaminant Control 2

3 Credit Balancing of Heating and Cooling Distribution Systems 3

1 Credit Enhanced Compartmentalization 1

2 Credit Enhanced Combustion Venting 2

2 Credit Enhanced Garage Pollutant Protection 2

3 Credit Low Emitting Products 3

1 0 5 Innovation 6

Y Prereq Preliminary Rating Required

5 Credit Innovation 5

1 Credit LEED AP Homes 1

0 0 4 Regional Priority 4

1 Credit Regional Priority: Specific Credit 1

1 Credit Regional Priority: Specific Credit 1

1 Credit Regional Priority: Specific Credit 1

1 Credit Regional Priority: Specific Credit 1


40 42 23 TOTALS Possible Points: 110

Certified: 40 to 49 points, Silver: 50 to 59 points, Gold: 60 to 79 points, Platinum: 80 to 110

MEMORANDUM

DATE: December 21, 2020

TO: Frank Pasciuto
Member Manager
192 Massachusetts Ave LLC
Framina LLC
455 Massachusetts Avenue, Ste 1
Arlington, MA 02474

FROM: Robert J. Michaud, P.E. – Managing Principal 
Daniel A. Dumais, P.E. – Senior Project Manager

RE: **Proposed Mixed-Use Development**
190-200 Massachusetts Avenue, Arlington, Massachusetts

MDM Transportation Consultants, Inc. (MDM) has conducted this traffic impact statement (TIS) for a proposed mixed-use development to be located at 190-200 Massachusetts Avenue in Arlington, Massachusetts. The location of the site relative to the adjacent roadway network is shown in **Figure 1**. This TIS provides a summary of the baseline traffic characteristics of the Site and adjacent roadways/ intersections, evaluates existing and projected site trip generation, quantifies incremental traffic impacts of the Site development on area roadways, and evaluates safety-related conditions at key study locations that provide access to the Site.

Key findings of the assessment are as follows:

- *Safety Characteristics.* A review of the crash data indicated that no immediate safety countermeasures are warranted based on the crash history at the study intersections. Likewise, available sight lines at the site driveway intersection with Chandler Street will exceed the sight line requirements published by AASHTO.
- *Public Transportation.* The project is in close proximity to an extensive sidewalk system, three nearby multi-use paths (Minuteman Bikeway, Alewife Greenway Bike Path, and Alewife Linear Path), adjacent MBTA bus routes, and the nearby redline subway connections. A review of Census data for Arlington indicates alternative transportation (transit, walk, and bike) use of 50% for residents of the immediate study area (Census tract 3561).

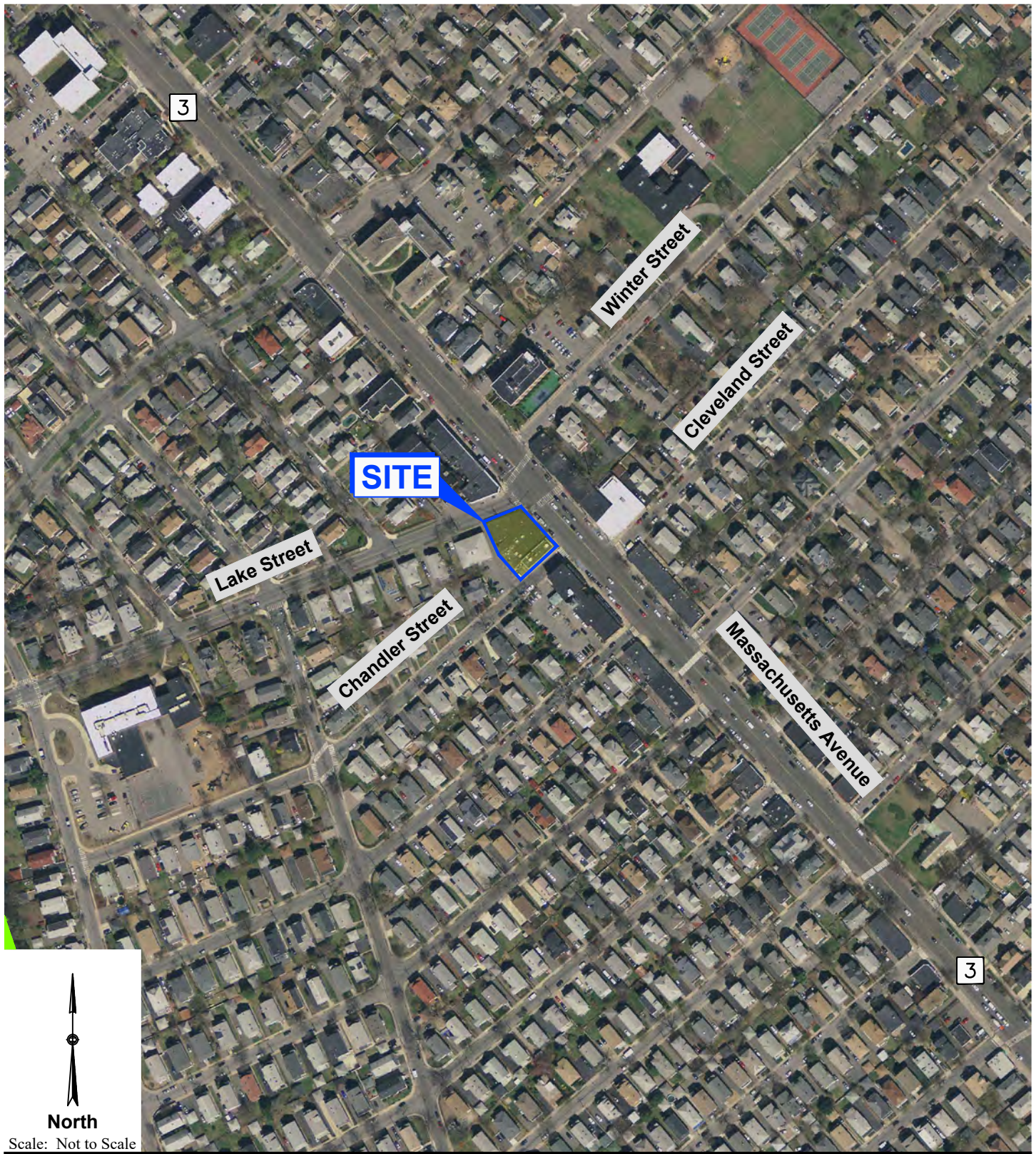


Figure 1

Site Location

- *Reduced Trip Generation.* Based on ITE methodology the proposed mixed-use development is estimated to reduce peak hour trips by up to 25 vehicle trips and approximately 228 fewer vehicle trips on a weekday relative to existing/historic site uses.
- *Qualitative Impact Assessment.* the incremental traffic associated with the proposed development will result in a reduction in vehicular activity compared to the existing/historic uses; consequently, no material impact in operating conditions at the study intersections and area roadways is projected as a result of the redevelopment.

In summary, access improvements, pedestrian/bicycle improvements, and TDM program are outlined under *Recommendations and Conclusions*. These improvements will establish a framework of minimizing Site traffic impacts and encourage non-motorized travel modes and pedestrian accommodation that is compatible with other projects in the area.

PROJECT DESCRIPTION

The Site consists of approximately 0.26± acres of land located along the western side of Massachusetts Avenue between Lake Street and Chandler Street. The existing Site includes 10,500± sf of commercial/retail buildings with a curb cut along Chandler Street providing 2 off-street parking spaces. The development program envisions retaining approximately 1,735 sf of commercial space and constructing 37 residential apartments. Accordingly, net new trip activity for the site will be limited to the proposed 37 residential units after further offset by the reduction in commercial tenants in the current buildings. Access to the Site will be via a full access/egress driveway along Chandler Street with off-street parking for 15 vehicles. The preliminary site layout prepared by Allen & Major Associates; Inc. is presented in **Figure 2**.

STUDY AREA

The following intersections will comprise the proposed study area:

- Massachusetts Avenue at Lake Street/Winter Street (Signal)
- Massachusetts Avenue at Chandler Street
- Chandler Street at Site Driveway

BASELINE TRAFFIC & SAFETY CHARACTERISTICS

An overview of roadway classification and geometric characteristics is provided below for the adjacent study roadway.

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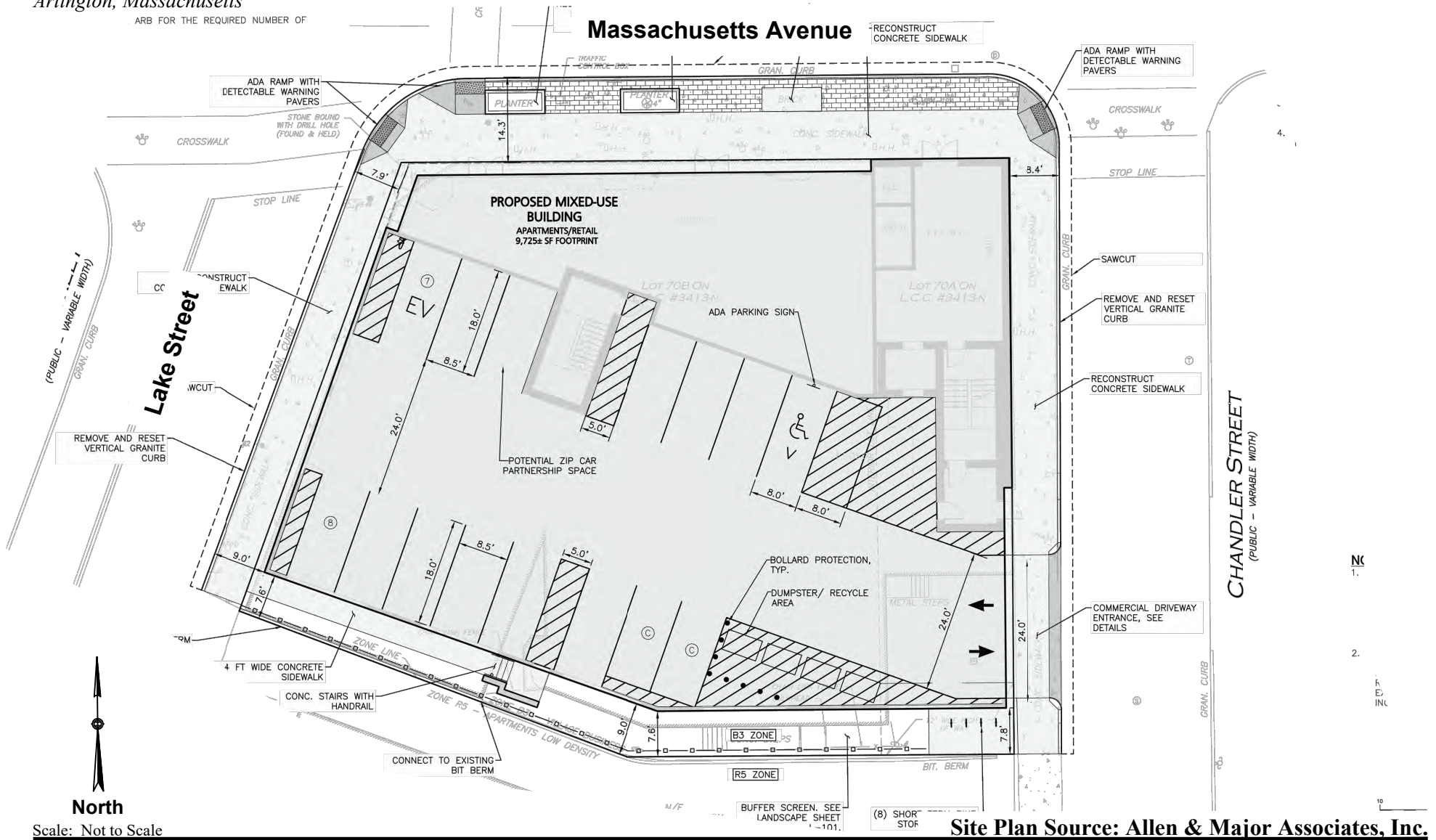


Figure 2

Preliminary Site Plan

Roadways

Massachusetts Avenue (Route 3)

Adjacent to the Site, Massachusetts Avenue is a southeast-northwest roadway under local (town) jurisdiction and is classified by the Massachusetts Department of Transportation (MassDOT) as an Urban Principal Arterial roadway. The roadway provides a connection to Arlington Center in the west and connects to Alewife Brook Parkway and Cambridge to the east. Massachusetts Avenue provides three travel lanes in the site area, one westbound and two eastbound, separated by a double yellow centerline. Additional turn lanes are provided at its major intersections. Sidewalks and on-street parking are provided along both the northern and southern side of the roadway, and bike lanes are provided in both directions. Land use along Massachusetts Avenue in the immediate study area includes a mix of commercial and residential uses.

Lake Street

Lake Street is a two-lane, east-west roadway under local (town) jurisdiction and is classified by the Massachusetts Department of Transportation (MassDOT) as an Urban Minor Arterial roadway. The roadway provides a connection to Route 2 in the west and connects to Massachusetts Avenue to the east. Lake Street provides two travel lanes, one in each direction, separated by a double yellow centerline. Sidewalks are provided along both the northern and southern side of the roadway, and no on-street parking is allowed. Land use along Lake Street in the immediate study area includes a mix of uses including the commercial and residential uses, Hardy Elementary School, and access to the Minuteman Commuter Bikeway.

Chandler Street

Adjacent to the Site, Chandler Street is a one-lane, northbound roadway under local (town) jurisdiction and is classified by the Massachusetts Department of Transportation (MassDOT) as a local roadway. Chandler Street is approximately 24 feet wide and allows on-street parking along the eastern side of the roadway. Sidewalks are provided along both the eastern and western side of the roadway. Land use along Chandler Street in the immediate study area includes a mix of commercial and residential uses.

Intersection Crash History

In order to identify crash trends and safety characteristics for study area intersections, crash data were obtained from MassDOT for the Town of Arlington for the five-year period covering 2015 – 2019 (the most recent full year of data available from MassDOT). A summary of the crash data with crash rates for the study intersections with reported crashes is provided in **Table 1** with detailed data provided in the **Attachments**. A review of Highway Safety Improvement Project (HSIP) locations was also conducted.

TABLE 1
INTERSECTION CRASH SUMMARY
2015 THROUGH 2019¹

| Data Category | STUDY LOCATION | | |
|--------------------|---|---|--|
| | Massachusetts Ave at Lake Street/ Winter Street | Massachusetts Ave at Chandler Street | Chandler Street at Site Driveway/ 180 Mass Ave |
| Traffic Control | Signalized | Unsignalized | Unsignalized |
| <i>Year:</i> | | | |
| 2015 | 9 | 2 | 0 |
| 2016 | 2 | 0 | 1 |
| 2017 | 5 | 1 | 0 |
| 2018 | 2 | 1 | 0 |
| <u>2019</u> | <u>3</u> | <u>0</u> | <u>0</u> |
| Total | 21 | 4 | 1 |
| <i>Type:</i> | | | |
| Angle | 3 | 3 | 1 |
| Rear-End | 6 | 1 | 0 |
| Head-On | 0 | 0 | 0 |
| Sideswipe | 10 | 0 | 0 |
| Single Vehicle | 1 | 0 | 0 |
| Other/Unknown | 1 | 0 | 0 |
| <i>Severity:</i> | | | |
| P. Damage Only | 20 | 4 | 1 |
| Personal Injury | 1 | 0 | 0 |
| Fatality | 0 | 0 | 0 |
| Not Reported | 0 | 0 | 0 |
| <i>Conditions:</i> | | | |
| Dry | 19 | 1 | 1 |
| Wet | 2 | 2 | 0 |
| Snow | 0 | 0 | 0 |
| Not Reported/Other | 0 | 1 | 0 |
| <i>Time:</i> | | | |
| 7:00 to 9:00 AM | 2 | 0 | 0 |
| 4:00 to 6:00 PM | 3 | 1 | 0 |
| Rest of Day | 16 | 3 | 1 |

¹Source: MassDOT Crash Database

²Crashes per million entering vehicles

As summarized in **Table 1**:

- *Massachusetts Avenue at Lake Street*: A total of twenty-one (21) crashes were reported near the signalized intersection of Lake Street with Massachusetts Avenue resulting in approximately 4 crashes per year. The reported crashes included three (3) angle type collisions, six (6) rear-end type collisions, and ten (10) sideswipe-type collisions. Seventy-six percent (76%) of the crashes resulted in property-damage only, generally indicative of low-speed crashes. No fatalities or pedestrian-related incidents were reported during the study period. There was one collision that involved a bicycle and an eastbound vehicle in 2018 during the weekday evening peak hour that resulted in property damage only with the driver listed as disregarding the signal and roadway markings.
- *Massachusetts Avenue at Chandler Street*: A total of four (4) crashes were reported near the unsignalized intersection of Chandler Street with Massachusetts Avenue resulting in approximately 1 crash per year. The reported crashes included three (3) angle type collisions and one (1) rear-end type collisions. No fatalities or pedestrian-related incidents were reported during the study period.
- *Chandler Street at Site Driveway*: One (1) crash was reported at the unsignalized intersection of 180 Massachusetts Avenue (Bank) rear parking lot with Chandler Street. The reported crash was an angle-type collision that resulted in property damage only. No fatalities or pedestrian-related incidents were reported during the study period.

MDM notes that the safety review indicates that Massachusetts Avenue is listed as a HSIP bicycle cluster between Tufts Street in Arlington and Magoun Street in Cambridge. However, after an extensive review of crash records at the study intersections and with the limited number of pedestrian/bicycle related crashes as described above, no additional safety countermeasures are warranted.

Sight Line Evaluation

An evaluation of sight lines was conducted at the proposed site driveway location to ensure that minimum recommended sight lines are available to safely exit onto Chandler Street. The evaluation documents existing sight lines for vehicles as they relate to Chandler Street with comparison to recommended guidelines for the regulatory speed limit.

The American Association of State Highway and Transportation Officials' (AASHTO) standards¹ reference two types of sight distance which are relevant at the site driveway intersection on Chandler Street: stopping sight distance (SSD) and intersection sight distance (ISD). Sight lines for critical vehicle movements at the proposed site driveway intersection with Chandler Street were compared to minimum SSD and ISD for the regulatory speed limit in the Site vicinity.

Stopping Sight Distance

Sight distance is the length of roadway visible to the motorist to a fixed object. The minimum sight distance available on a roadway should be sufficiently long enough to enable a below-average operator, traveling at or near a regulatory speed limit, to stop safely before reaching a stationary object in its path, in this case, a vehicle exiting the site driveway onto Chandler Street. The SSD criteria are defined by AASHTO based on design and operating speeds, anticipated driver behavior and vehicle performance, as well as physical roadway conditions. SSD includes the length of roadway traveled during the perception and reaction time of a driver to an object, and the distance traveled during brake application on wet level pavement. Adjustment factors are applied to account for roadway grades where applicable.

SSD was estimated in the field using AASHTO standards for driver's eye (3.5 feet) and object height equivalent to the taillight height of a passenger car (2.0 feet) for the eastbound Chandler Street approaches to the proposed site driveway. **Table 2** presents a summary of the available SSD for the Chandler Street approach to the site driveway and AASHTO's recommended SSD for the regulatory travel speed.

¹ A policy on Geometric Design of Highways and Streets, American Association of State Highway and Transportation Officials (AASHTO), 2018.

TABLE 2
STOPPING SIGHT DISTANCE SUMMARY
CHANDLER STREET APPROACH TO SITE DRIVEWAY

| Approach/ Travel Direction | Available SSD | AASHTO Recommended ¹ | |
|-------------------------------|---------------|--|--------------------|
| | | Regulatory Speed Limit ² | Criteria Satisfied |
| Northbound | >400 Feet | 155 Feet | Yes |

¹Recommended sight distance based on AASHTO, A Policy on Geometric Design of Highways and Streets. Based on driver height of eye of 3.5 feet to object height of 2.0 feet and adjustments for roadway grade.

²Prima-Facie Speed Limit is 25 mph.

As summarized in **Table 2** analysis results indicate that the available sight lines will exceed AASHTO's recommended SSD criteria for the proposed site driveway based on the regulatory speeds along Chandler Street.

Intersection Sight Distance

Clear sight lines provide sufficient sight distance for a stopped driver on a minor-road approach to depart from the intersection and enter or cross the major road. As stated under AASHTO's Intersection Sight Distance (ISD) considerations, "...If the available sight distance for an entering ...vehicle is at least equal to the appropriate stopping sight distance for the major road, then drivers have sufficient sight distance to avoid collisions...To enhance traffic operations, intersection sight distances that exceed stopping sight distances are desirable along the major road." AASHTO's ISD criteria are defined into several "cases". For the proposed unsignalized site driveway location, which is proposed to be under "STOP" control with left egress movements, the ISD in question relates to the ability to turn left from the proposed driveway at its intersection with Chandler Street.

Available ISD was estimated in the field using AASHTO standards for driver's eye (3.5 feet), object height (3.5 feet) and decision point (between 8 from the edge of the travel way) for the eastbound direction along Chandler Street. **Table 3** presents a summary of the available ISD for the departure from the proposed site driveway and AASHTO's minimum and ideal ISD recommendations.

TABLE 3
INTERSECTION SIGHT DISTANCE SUMMARY
SITE DRIVEWAY DEPARTURE TO CHANDLER STREET

| View Direction | Available ISD | AASHTO Minimum ¹ | AASHTO Ideal ² |
|----------------------|---------------|--|--|
| | | Regulatory Speed Limit ² | Regulatory Speed Limit ² |
| <i>Looking South</i> | >400 Feet | 155 Feet | 280 Feet |

¹Recommended sight distance based on AASHTO, A Policy on Geometric Design of Highways and Streets. Based on driver height of eye of 3.5 feet and an object height of 3.5 feet. Minimum value as noted represents SSD per AASHTO guidance. Adjustments for driveway grade have been made as needed.

² Prima-Facie Speed Limit is 25 mph.

The results of the ISD analysis presented in **Table 3** indicate that the available sight lines looking west from the site driveway onto Chandler Street will exceed the recommended sight line criteria from AASHTO. MDM recommends that any new plantings (shrubs, bushes) or physical landscape features to be located within driveway sight lines should also be maintained at a height of 2 feet or less above the adjacent existing roadway grade to ensure unobstructed lines of sight.

As a further safety feature, it is recommended that the Proponent install an audible and visual warning device at the garage exit to alert pedestrians of pending motorists exiting the driveway.

Alternative Transportation Facilities

The existing pedestrian and transit facilities within the study area are shown graphically in **Figure 3**. The project is in close proximity to an extensive sidewalk system, nearby multi-use paths, adjacent MBTA bus routes, and nearby redline subway stations. The Massachusetts Bay Transit Authority (MBTA) operates the following bus routes in the study area and could be used as an alternative mode of travel to/from the site. A review of census data for Arlington indicates alternative transportation (transit, walk, and bike) use of 50% for residents of the immediate study area (Census tract 3561). Specific route and schedule information and Census data is provided in the **Attachments**.

- *MBTA Subway Service:* The redline subway runs from Alewife Station to South Station with another stop at Harvard Square. Both Alewife and Harvard stops are accessible from the Site via nearby MBTA Bus Routes. Service generally runs 5:00 am to 1:00 am on both weekdays and weekends with headways of approximately 9 minutes on peak times and 15-25 minutes during off-peak times.



Figure 3

- *Route 77:* This route provides service between Arlington Heights and Harvard Square via Massachusetts Avenue (Route 3). Service is provided along Massachusetts Avenue with a bus stop located less than ¼ mile from Site near the intersection of Massachusetts Avenue and Lake Street. Several connections to other bus routes in the service area are available as is a direct connection to the Redline T service. Service is generally provided seven (7) days a week and operates between 5:00 am and 1:30 am on weekdays, between 5:00 am and 1:30 am on Saturdays and between 6:00 am and 1:30 am on Sundays.

- *Route 79:* This route provides service between Arlington Heights and Alewife Station via Massachusetts Avenue (Route 3) and Alewife Brook Parkway. Service is provided along Massachusetts Avenue with a bus stop located less than ¼ mile from Site near the intersection of Massachusetts Avenue and Lake Street. Several connections to other bus routes in the service area are available as is a direct connection to the Redline T service. Service is generally provided five (5) days a week and operates between 7:00 am and 7:30 pm on weekdays with no service on weekends.

- *Route 350:* This route provides service between North Burlington and Alewife Station via Cambridge Street (Route 3A), Massachusetts Avenue (Route 3), and Alewife Brook Parkway. Service is provided along Massachusetts Avenue with a bus stop located less than ¼ mile from Site near the intersection of Massachusetts Avenue and Lake Street. Several connections to other bus routes in the service area are available as is a direct connection to the Redline T service. Service is generally provided seven (7) days a week and operates between 6:00 am and 11:00 pm on weekdays, between 6:30 am and 10:00 pm on Saturdays and between 7:00 am and 7:30 pm on Sundays.

- *Minuteman Bikeway:* This bikeway is a 10-mile trail connecting Bedford, Lexington, Arlington, and Cambridge. Access to the Bikeway from the Site can be made at its crossing of Lake Street located approximately ¼ mile away. The Bikeway provides a direct connection to the Alewife MBTA Station as well as other bike/pedestrian trails in the area including the nearby Alewife Greenway Bike Path and Alewife Linear Path.

- *Alewife Greenway Bike Path:* This bikeway is approximately a 2-mile trail connecting Cambridge and eastern Arlington. Access to the Bikeway from the Site can be made via a connection to the Minuteman Bikeway near Magnolia Park. The Bike Path follows along Alewife Brook Parkway and provides a direct connection from the Alewife MBTA Station to Mystic Valley Parkway in Arlington as well as local commercial and recreational spaces such as Dilboy Fields, Pool and Tennis Courts.

- *Alewife Linear Path:* This bikeway is a 2-mile trail connecting Cambridge and Somerville. Access to the Bikeway from the Site can be made via a connection to the Minuteman Bikeway near Alewife Station. The Bikeway provides a direct connection from the Alewife MBTA Station to Davis Square in Somerville.

TRIP GENERATION

The trip generation estimates for the proposed redevelopment of the Site are provided for the weekday morning and weekday evening periods, which correspond to the critical analysis periods for the proposed use and adjacent street traffic flow. The methodology utilized to estimate the future trip-generation characteristics of the proposed development are summarized below. In accordance with EEA/MassDOT guidelines, the traffic generated by the proposed mixed-use development was estimated using trip rates published in ITE's *Trip Generation* for the Land Use Code (LUC) based on trip rates for Multifamily Housing (Mid-Rise) (LUC 221) and Shopping Center (LUC 820) for the commercial space. Census data for the immediate area indicates a transit use mode share of approximately 50% for residential uses. Therefore, trips associated with the residential use have been adjusted to reflect the census tract data. Projected site trip generation for the proposed development is summarized in **Table 2**. Trip generation calculations are provided in the **Attachments**.

TABLE 2
TRIP-GENERATION SUMMARY

| Period | Residential ¹ | Retail Use ² | Total Trips |
|-----------------------------------|--------------------------|-------------------------|-------------|
| <i>Weekday Morning Peak-Hour:</i> | | | |
| Enter | 2 | 1 | 3 |
| <u>Exit</u> | <u>5</u> | <u>1</u> | <u>6</u> |
| Total | 7 | 2 | 9 |
| <i>Weekday Evening Peak-Hour:</i> | | | |
| Enter | 5 | 3 | 8 |
| <u>Exit</u> | <u>3</u> | <u>4</u> | <u>7</u> |
| Total | 8 | 7 | 15 |
| <i>Daily</i> | 102 | 66 | 168 |

¹Based on ITE LUC 221 (Multifamily Housing (Mid-Rise)) applied to 37 Units adjusted to reflect 50% non-auto mode share per US Census tract data.

²Based on ITE LUC 820 (Shopping Center) applied to 1,735 sf.

As summarized in **Table 2**, the proposed mixed-use development is estimated to generate approximately 9 vehicle trips during the weekday morning peak hour (3 entering and 6 exiting) and 15 vehicle trips during the weekday evening peak hour (8 entering and 7 exiting). On a daily basis, the development is estimated to generate approximately 168 vehicle trips on a weekday.

Table 3 summarizes the trip generation comparison for the project with respect to total new trips when adjusted for credit of existing/historic Site uses.

TABLE 3
TRIP-GENERATION COMPARISON

| Period | Existing Uses ¹ | Proposed Use ² | Net New Trips |
|-----------------------------------|----------------------------|---------------------------|---------------|
| <i>Weekday Morning Peak-Hour:</i> | | | |
| Enter | 6 | 3 | -3 |
| <u>Exit</u> | <u>4</u> | <u>6</u> | <u>+2</u> |
| Total | 10 | 9 | -1 |
| <i>Weekday Evening Peak-Hour:</i> | | | |
| Enter | 19 | 8 | -11 |
| <u>Exit</u> | <u>21</u> | <u>7</u> | <u>-14</u> |
| Total | 40 | 15 | -25 |
| <i>Daily</i> | 396 | 168 | -228 |

¹Based on ITE LUC 820 (Shopping Center) applied to 10,500 sf.

²Based on ITE LUC 221 (Multifamily Housing (Mid-Rise)) applied to 37 Units adjusted to reflect 50% non-auto mode share per US Census tract data and ITE LUC 820 (Shopping Center) applied to 1,735 sf.

As summarized in **Table 3**, the proposed mixed-use development is estimated to generate a net reduction in vehicle trips relative to existing/historic uses at the site. Specifically, the project will generate approximately 1 *fewer* vehicle trip (3 fewer entering and 2 more exiting) during the weekday morning peak hour and 25 *fewer* vehicle trips (11 fewer entering and 14 fewer exiting) during the weekday evening peak hour. On a daily basis, the development is estimated to generate approximately 228 *fewer* vehicle trips on a weekday. Trip generation calculations are provided in the **Attachments**.

QUALITATIVE IMACT ASSESSMENT

This section provides a quantitative statement of impact and describes the changes in trip generation associated with the development relative to Baseline conditions. Based on ITE trip generation methodology, the project will result in a no material change in traffic during the weekday morning peak hour and a modest decrease of approximately 25 vehicular trips (60% decrease) during the weekday evening peak hour. Relative traffic increases for the proposed project represents an inconsequential change in area roadway volumes - a level of change that falls well within normal day-to-day fluctuations in traffic traveling along Massachusetts Avenue and entering and exiting the study intersections. Consequently, no material impact in operating conditions at the study intersections and area roadways is projected as a result of the project.

RECOMMENDATIONS AND CONCLUSIONS

In summary, the proposed mixed-use development is estimated to result in a net reduction in trips compared to the existing commercial use of the property. However, several mitigation actions are identified to support the project to ensure that site access meets applicable safety criteria, to enhance neighborhood walking/bicycling and to reduce dependency on single-occupant auto use. These include (a) access-related improvements, (b) pedestrian and bicycle accommodations, and (c) Transportation Demand Management (TDM) elements as summarized below.

Access/Egress Improvements

- *Signs and Pavement Markings.* A STOP sign (R1-1) and STOP line pavement marking should be installed on the driveway approach to Chandler Street. “Left Turn Only” arrow and pavement marking should also be installed on the driveway approach to enhance the one-way restriction along Chandler Street. The sign and pavement markings shall conform to Manual on Uniform Traffic Control Devices (MUTCD) standards.
- *Audible Warning Device.* As a further safety feature, the Proponent should install an audible and visual warning device at the garage exit to alert pedestrians of pending motorists exiting the driveway.
- *Maintain Clear Driveway Sight Lines.* New plantings (shrubs, bushes) and structures (walls, fences, etc.) should be designed and maintained at a height of 2 feet or less above the finished driveway elevation within the sight triangle areas to provide unobstructed visibility to oncoming vehicles.

Pedestrian and Bicycle Accommodations

- *Pedestrian Accommodation.* The design incorporates sidewalks that connect the proposed building entrances with the parking areas and to the existing sidewalk along Massachusetts Avenue, Chandler Street, and Lake Street. The sidewalk along the property frontage will also be reconstructed to enhance the pedestrian environment along the property.
- *Bicycle Amenities.* The Proponent will incorporate secure and weather-protected indoor bicycle racks within the site (60 total spaces) to encourage and facilitate this mode of transportation to/from the Site by residents and building tenants. Additional short-term bike racks (8 exterior spaces) will also be provided near the building.

Transportation Demand Management (TDM)

A preliminary list of potential TDM program elements may include the following, subject to refinement of the development program and further evaluation by the Proponent:

- *Unbundled Parking.* The Proponent will consider unbundling residential parking to provide an option for residents to rent fewer or no parking spaces with their unit.
- *Bicycle Facilities and Promotion.* The Proponent will provide bicycle parking in excess of the zoning ordinance requirements to including weather protected racks for residents and supplemental racks for visitors and employees proximate to the building entrance. Specifically, this includes weather-protected bicycle storage within the site (60 spaces total within the property) plus 8 supplemental short-term exterior bike spaces.
- *Improve Walking Conditions.* The sidewalk along the property frontage will be reconstructed to enhance pedestrian accommodation to and along the property. The Proponent proposed to replace the bench within the sidewalk area fronting the property to accommodate pedestrians that are waiting for public transportation along Massachusetts Avenue. The Proponent will reconstruct the sidewalk and ramp system adjacent to the Site and provide enhanced planter boxes.
- *Electric Vehicle Parking Space.* Proponent will provide one (1) charging station for electric vehicles in the parking garage.
- *Car-Sharing Service Parking Space.* Proponent will consider the inclusion of one (1) parking space dedicated to a car-sharing service, such as ZipCar or other equivalent service.

CONCLUSIONS

In summary, MDM finds that the incremental traffic associated with the proposed development will result in a net reduction in vehicular activity compared to the existing/historic uses. Consequently, no material impact in operating conditions at the study intersections and area roadways is projected as a result of the redevelopment. Implementation of access improvements, proposed pedestrian improvements, and a TDM program will establish a framework of minimizing Site traffic impacts and will encourage non-motorized travel modes and pedestrian accommodation that is compatible with other projects in the area.

ATTACHMENTS

- ☐ Crash Data
- ☐ Sight Line Calculations
- ☐ Public Transportation Information
- ☐ Trip Generation
- ☐ Census Information

□ Crash Data

Mass Ave at Lake Street

| Crash Num | City Town Name | Crash Date | Crash Severity | Crash Time | Number of Vehicles | First Harmful Event | Manner of Collision | Non-Motorist Type (/ | Road Surface | C X | Y |
|-----------|----------------|------------|-------------------|------------|--------------------|--|-------------------------------|----------------------|--------------|----------|----------|
| 3993282 | ARLINGTON | 01/11/2015 | Property damage o | 2:29 PM | 2 | Collision with motor vehicle in traffic | Angle | Dry | | 229447.7 | 906201.7 |
| 4034761 | ARLINGTON | 04/15/2015 | Property damage o | 3:44 PM | 2 | Collision with motor vehicle in traffic | Sideswipe, same direction | Dry | | 229448.7 | 906200.6 |
| 4036637 | ARLINGTON | 04/29/2015 | Not Reported | 8:29 AM | 2 | Collision with motor vehicle in traffic | Sideswipe, same direction | Dry | | 229439.6 | 906210.5 |
| 4039082 | ARLINGTON | 05/01/2015 | Property damage o | 5:54 AM | 2 | Collision with motor vehicle in traffic | Rear-end | Dry | | 229448.7 | 906200.6 |
| 4045800 | ARLINGTON | 05/24/2015 | Property damage o | 10:02 PM | 2 | Collision with motor vehicle in traffic | Rear-end | Dry | | 229448.7 | 906200.6 |
| 4050184 | ARLINGTON | 06/05/2015 | Not Reported | 2:28 PM | 2 | Collision with motor vehicle in traffic | Rear-end | Dry | | 229448.7 | 906200.6 |
| 4071582 | ARLINGTON | 08/07/2015 | Non-fatal injury | 4:56 PM | 2 | Collision with motor vehicle in traffic | Sideswipe, opposite direction | Dry | | 229448.7 | 906200.6 |
| 4115437 | ARLINGTON | 11/19/2015 | Not Reported | 3:35 PM | 2 | Collision with motor vehicle in traffic | Angle | Dry | | 229448.7 | 906200.6 |
| 4122759 | ARLINGTON | 12/10/2015 | Not Reported | 6:27 AM | 2 | Collision with motor vehicle in traffic | Sideswipe, same direction | Dry | | 229448.7 | 906200.6 |
| 4137503 | ARLINGTON | 01/17/2016 | Property damage o | 2:51 PM | 2 | Collision with motor vehicle in traffic | Rear-end | Dry | | 229448.7 | 906200.6 |
| 4247681 | ARLINGTON | 09/13/2016 | Property damage o | 12:09 PM | 1 | Collision with utility pole | Single vehicle crash | Dry | | 229448.7 | 906200.6 |
| 4372115 | ARLINGTON | 06/03/2017 | Property damage o | 1:12 PM | 1 | Collision with motor vehicle in traffic | Sideswipe, same direction | Dry | | 229456.9 | 906192.4 |
| 4388089 | ARLINGTON | 07/08/2017 | Property damage o | 12:11 PM | 2 | Collision with motor vehicle in traffic | Sideswipe, same direction | Dry | | 229439.6 | 906210.5 |
| 4447110 | ARLINGTON | 10/26/2017 | Property damage o | 9:42 AM | 2 | Collision with parked motor vehicle | Sideswipe, same direction | Wet | | 229439.6 | 906210.5 |
| 4492857 | ARLINGTON | 11/27/2017 | Property damage o | 12:07 PM | 2 | Collision with motor vehicle in traffic | Sideswipe, same direction | Dry | | 229448.7 | 906200.6 |
| 4517088 | ARLINGTON | 03/20/2018 | Property damage o | 5:01 PM | 1 | Collision with pedalcycle (bicycle, tricycle, unicycle, pedal car) | Unknown | P3: Cyclist | Dry | 229448.7 | 906200.6 |
| 4596395 | ARLINGTON | 06/03/2017 | Property damage o | 1:12 PM | 2 | Collision with motor vehicle in traffic | Sideswipe, same direction | Dry | | 229448.3 | 906201.1 |
| 4618623 | ARLINGTON | 11/06/2018 | Property damage o | 7:03 PM | 2 | Collision with motor vehicle in traffic | Rear-to-rear | Wet | | 229441.5 | 906208.5 |
| 4774799 | ARLINGTON | 11/14/2019 | Property damage o | 8:07 AM | 3 | Collision with motor vehicle in traffic | Rear-end | Dry | | 229441.5 | 906208.5 |
| 4776600 | ARLINGTON | 11/15/2019 | Property damage o | 5:33 PM | 2 | Collision with motor vehicle in traffic | Angle | Dry | | 229448.7 | 906200.6 |
| 4783683 | ARLINGTON | 11/25/2019 | Property damage o | 1:13 PM | 2 | Collision with motor vehicle in traffic | Sideswipe, same direction | Dry | | 229448.7 | 906200.6 |

Mass Ave at Chandler Street

| Crash Num | City Town Name | Crash Date | Crash Severity | Crash Time | Number of Vehicles | First Harmful Event | Manner of Collision | Non-Motorist Type (/ | Road Surface | C X | Y |
|-----------|----------------|------------|-------------------|------------|--------------------|---|---------------------|----------------------|--------------|----------|----------|
| 4070001 | ARLINGTON | 07/31/2015 | Not Reported | 12:28 PM | 2 | Collision with parked motor vehicle | Rear-end | Dry | | 229479.5 | 906169.7 |
| 4088269 | ARLINGTON | 09/17/2015 | Not Reported | 10:55 PM | 1 | Collision with motor vehicle in traffic | Angle | Not reported | | 229479.5 | 906169.7 |
| 4355229 | ARLINGTON | 04/21/2017 | Property damage o | 4:43 PM | 2 | Collision with motor vehicle in traffic | Angle | Wet | | 229479.5 | 906169.7 |
| 4593671 | ARLINGTON | 09/12/2018 | Property damage o | 1:02 PM | 3 | Collision with motor vehicle in traffic | Angle | Wet | | 229479.5 | 906169.7 |

Chandler Street at Site Driveway

| Crash Num | City Town Name | Crash Date | Crash Severity | Crash Time | Number of Vehicles | First Harmful Event | Manner of Collision | Non-Motorist Type (/ | Road Surface | C X | Y |
|-----------|----------------|------------|-------------------|------------|--------------------|---|---------------------|----------------------|--------------|----------|----------|
| 4157362 | ARLINGTON | 02/26/2016 | Property damage o | 3:15 PM | 2 | Collision with motor vehicle in traffic | Angle | Dry | | 229449.8 | 906143.2 |

□ Sight Line Calculations

Stopping Sight Distance - Regulatory Speed

Chandler Street approaches to Site Driveway

| | | SPEED (MPH) | BRAKE REACTION DISTANCE (FT) | BRAKING DISTANCE (FT) | CALCULATED STOPPING SIGHT DISTANCE (FT) |
|-------------|----|----------------|---------------------------------------|--------------------------|---|
| | | | | | |
| Direction 1 | NB | 25 | 91.875 | 59.9 | 151.8 |

INPUTS

Direction 1

| | |
|------------------|------|
| Travel Direction | NB |
| Speed | 25 |
| Grade | 0 |
| t | 2.5 |
| a | 11.2 |

Stopping Sight Distance (SSD) - Source: AASHTO

SSD = Reaction Distance + Brake Distance

Reaction Distance = $1.47 \times t \times V$

Brake Distance = $V^2 / (30 \times ((a/32.2) + G))$

Where:

t = reaction time (sec)

V = travel speed (mph)

G= roadway grade

a - deceleration rate (ft/sec²)

Intersection Sight Distance Calculations

Source: *A Policy on Geometric Design of Highways and Street, 7th Edition*; AASHTO; 2018.

$$ISD = 1.47 * V * t$$

V = speed

t = time gap

t = 7.5 s for a passenger car for Left Turn from a Stop





t = 6.5 s for a passenger car for Right Turn from a Stop

Chandler Street

$$ISD = 1.47 * 25 * 7.5 = 276 \text{ ft } \mathbf{SAY \ 280 \ ft}$$

(left-turn from a stop)

□ Public Transportation Information

| |  |  |  |  |
|--|---|---|---|---|
| PRICE PER TRIP | Local Bus | Bus + Bus | Rapid Transit | Bus + Rapid Transit |
| CharlieCard | \$1.70 | \$1.70 | \$2.40 | \$2.40 |
| CharlieTicket | \$2.00 | \$2.00 | \$2.90 | \$4.90** |
| Cash-on-Board | \$2.00 | \$4.00 | \$2.90 | \$4.90** |
| Student/Youth* | \$0.85 | \$0.85 | \$1.10 | \$1.10 |
| Senior/TAP** | \$0.85 | \$0.85 | \$1.10 | \$1.10 |
| UNLIMITED TRIP PASSES | | | | |
| 1-Day | \$12.75 | \$12.75 | \$12.75 | \$12.75 |
| 7-Day | \$22.50 | \$22.50 | \$22.50 | \$22.50 |
| Monthly | \$55.00 | \$55.00 | \$90.00 | \$90.00 |
| Senior/TAP Monthly \$30.00/month for unlimited travel on Local Bus and Rapid Transit | | | | |

VALID PASSES: LinkPass (\$84.50/mo.); Student/Youth LinkPass* (\$30/mo.); Senior/TAP LinkPass* (\$30/mo.); and express bus, commuter rail, and boat passes.

FREE FARES: Children 11 and under ride free when accompanied by an adult; Blind Access CharlieCard holders ride free: if using a guide, the guide rides free

* Requires Student CharlieCard or Youth CharlieCard. Student CharlieCards are available to students through participating middle schools and high schools. Youth CharlieCards are available through community partners in the Boston metro area. Visit www.mbta.com/youthpass for details.

**** Requires Senior/TAP CharlieCard, available to Medicare cardholders, seniors 65+, and persons with disabilities.**

***For Silver Line SL4 or SL5 pay \$2.75. Also see "transfers."

TRANSFERS

If paying with a CharlieTicket or CharlieCard, discounted transfers that are available are automatic — just use the same ticket or card throughout your trip. If paying with cash onboard a vehicle, free transfers are only allowed between rapid transit lines and inside paid platform areas at gated stations.

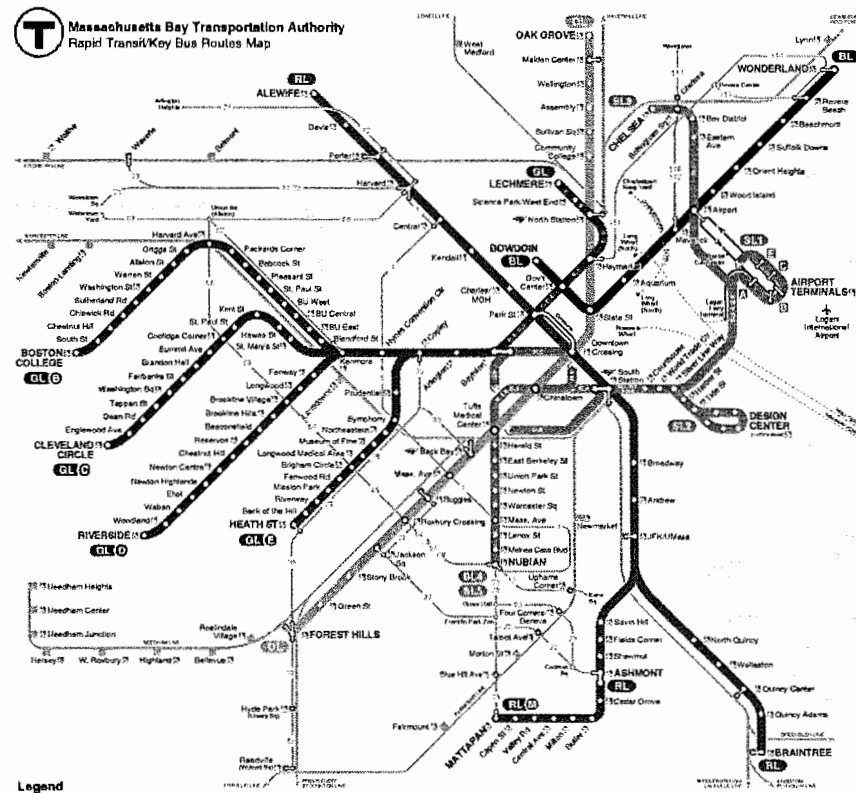
SCHEDULES

Schedules are available at the following stations: Park Street, Airport, Malden, Harvard, Haymarket (Green Line Level), Back Bay and Downtown Crossing (Orange Line Level) or see station personnel. Schedules also available at the Transportation Building (10 Park Plaza), 45 High St, and online at mbta.com.





























For real-time subway and bus tracking, download the Transit app on any smartphone.



Massachusetts Bay Transportation Authority
Rapid Transit/Key Bus Routes Map




Legend

- | | | | | | | |
|--|---|--|--|--|--|--|
|  RED LINE |  SILVER LINE and Interline |  GOLD LINE |  COMMUTER RAIL |  Assembly Line All 1017-2000, 800-302-0424 and 1017-2000 have no transfer points are accepted |  Free Laptop Assembly icon |  Customer Communications & Travel icon 800-302-0424, 800-302-0424 and 1017-2000, 800-302-0424 and 1017-2000, 800-302-0424 |
|  MATTAPAN LINE |  ORANGE LINE and Interline |  COMMUTER RAIL |  Assembly Line All 1017-2000, 800-302-0424 and 1017-2000 have no transfer points are accepted |  Free Laptop Assembly icon |  Customer Communications & Travel icon 800-302-0424, 800-302-0424 and 1017-2000, 800-302-0424 and 1017-2000, 800-302-0424 |  Assembly Line All 1017-2000, 800-302-0424 and 1017-2000 have no transfer points are accepted |
|  COMMUTER RAIL |  ORANGE LINE and Interline |  COMMUTER RAIL |  Assembly Line All 1017-2000, 800-302-0424 and 1017-2000 have no transfer points are accepted |  Free Laptop Assembly icon |  Customer Communications & Travel icon 800-302-0424, 800-302-0424 and 1017-2000, 800-302-0424 and 1017-2000, 800-302-0424 |  Assembly Line All 1017-2000, 800-302-0424 and 1017-2000 have no transfer points are accepted |
|  BLUE LINE |  ORANGE LINE and Interline |  COMMUTER RAIL |  Assembly Line All 1017-2000, 800-302-0424 and 1017-2000 have no transfer points are accepted |  Free Laptop Assembly icon |  Customer Communications & Travel icon 800-302-0424, 800-302-0424 and 1017-2000, 800-302-0424 and 1017-2000, 800-302-0424 |  Assembly Line All 1017-2000, 800-302-0424 and 1017-2000 have no transfer points are accepted |

Rapid Transit

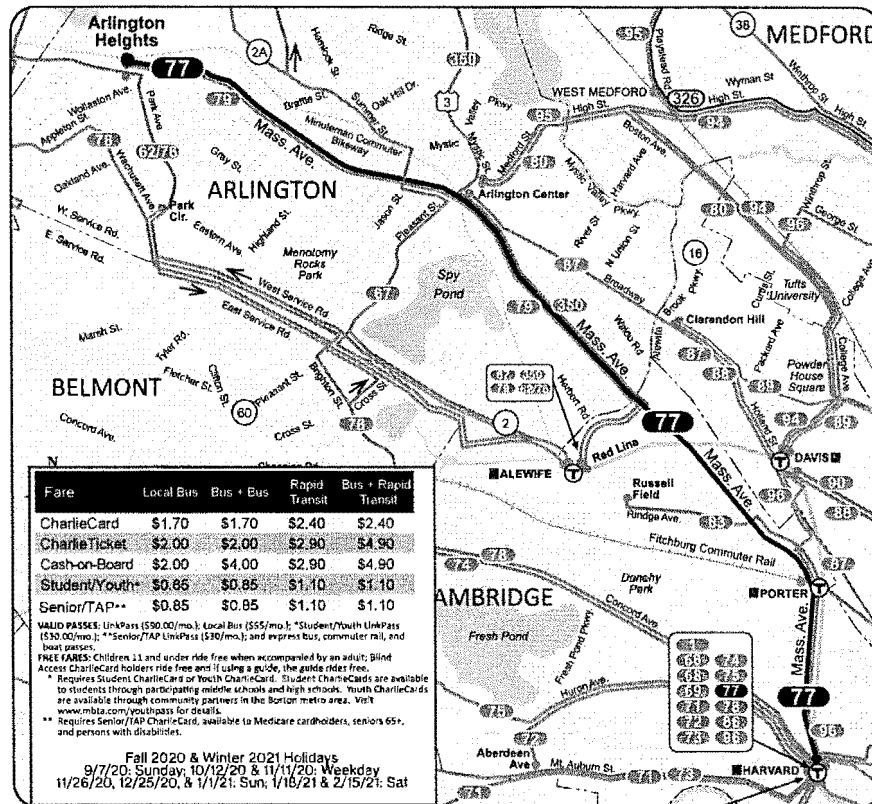
Effective August 30, 2020

 **Massachusetts Bay Transportation Authority** *massDOT*
Massachusetts Department of Transportation

Information 617-222-3200 • 1-800-392-6100
(TTY) 617-222-5146 • www.mbta.com

| Rapid Transit Line | Weekday | | | | Saturday | | | Sunday | | | Peak Service: Weekdays 7 AM - 9 AM, 4 PM - 6:30 PM |
|--|---------------------------------|---------------|---------------------|-----------------------------------|---------------------------------|---------------------------|-----------------------------------|-------------------------------|---------------------------|-----------------------------------|---|
| | First Trip | Peak | Off Peak | Last Trip | First Trip | Arriving Every | Last Trip | First Trip | Arriving Every | Last Trip | |
| Red Line | | | | | | | | | | | Green Line Notes: New and ongoing infrastructure projects may result in diversions on some branches at various times. See GL service changes at mbta.com/GLwork View service alerts at mbta.com/alerts * E trains start/end at North Station for Green Line Extension work – shuttles provided between North Station and Lechmere. More: mbta.com/GLEwork 1 - The first two C train AM northbound trips run through to Lechmere Station on weekdays. 2 - The first B and second C train AM northbound trips run through to Lechmere Station on weekends. 3 - On weekdays the 12:27 AM trip (weekends the 12:32 AM trip) from Heath St is the last connecting train to other lines downtown. The 12:37 AM and 12:47 AM trips (weekends the 12:47 AM trip) from Heath St. runs in service to Lechmere with no guaranteed connections. 4 - Early morning service from Lechmere to Riverside departs Lechmere at 5:00 AM. f - After exiting Ted Williams Tunnel bus will only service World Trade Center and South Station stops. w - Last trips wait at some stations, primarily in the Downtown area, for connecting service. Departure times are approximate. Fall 2020 & Winter 2021 Holidays 9/7/20: Sunday, 10/12/20 & 11/11/20: Weekday 11/26/20, 12/25/20, & 1/1/21: Sun, 1/18/21 & 2/15/21: Sat |
| Alewife Braintree | 5:24 AM 5:08 AM | 9 mins | 12-16 mins | 12:20 AM 12:17 AM | 5:24 AM 5:09 AM | 12-16 mins | 12:20 AM 12:17 AM | 6:06AM 6:00AM | 12-16 mins | 12:20 AM 12:17 AM | |
| Alewife Ashmont | 5:16 AM 5:16 AM | 9 mins | 12-16 mins | w 12:27 AM w 12:30 AM | 5:16 AM 5:16 AM | 12-16 mins | w 12:27 AM w 12:30 AM | 6:00AM 6:00AM | 12-16 mins | w 12:27 AM w 12:30 AM | |
| "M" Ashmont Mattapan | 5:17 AM 5:05 AM | 5 mins | 8-12 Day 26 Late | w 1:05 AM 12:53 AM | 5:15 AM 5:05 AM | 8-12 Day 26 Early/Late | w 1:05 AM 12:53 AM | 6:03AM 5:51AM | 8-12 Day 26 Early/Late | w 1:05 AM 12:53 AM | |
| Blue Line | | | | | | | | | | | |
| Wonderland | 5:13 AM | 5 mins | 9-13 mins | 12:28 AM | 5:25 AM | 9-13 mins | 12:28 AM | 5:58AM | 9-13 mins | 12:28 AM | |
| Orient Heights | 5:14 AM | | | 12:33 AM | 5:13 AM | | 12:33 AM | 6:03AM | | 12:33 AM | |
| Bowdoin | 5:30 AM | | | w 1:00 AM | 5:29 AM | | w 1:00 AM | 6:21AM | | w 1:00 AM | |
| Orange Line | | | | | | | | | | | |
| Oak Grove | 5:16 AM | 6 mins | 9-11 mins | w 12:30 AM | 5:16 AM | 9-11 mins | w 12:30 AM | 6:00AM | 9-11 mins | w 12:30 AM | |
| Forest Hills | 5:16 AM | | | w 12:28 AM | 5:16 AM | | w 12:28 AM | 6:00AM | | w 12:28 AM | |
| Green Line* | | | | | | | | | | | |
| B Boston College Park Street | 5:01 AM 5:45 AM | 5-6 mins | 7-9 mins | 12:10 AM w 12:52 AM | 4:45 AM ² 5:40 AM | 7-8 mins | 12:09 AM w 12:52 AM | 5:20AM ² 6:12AM | 9 mins | 12:10 AM w 12:52 AM | |
| C Cleveland Circle North Station | 4:57 AM ¹ 5:48 AM | 6-8 mins | 9-11 mins | 12:07 AM w 12:46 AM | 4:50 AM ² 5:30 AM | 9-10 mins | 12:10 AM w 12:46 AM | 5:30AM ² 6:06AM | 10 mins | 12:10 AM w 12:46 AM | |
| D Riverside Government Ctr. | 4:56 AM 5:45 AM | 6 mins | 8-11 mins | 12:05 AM w 12:49 AM | 4:55 AM 5:38 AM | 8-9 mins | 12:02 AM w 12:49 AM | 5:25AM 6:10AM | 11-12 mins | 12:05 AM w 12:49 AM | |
| E Lechmere* Heath Street | 5:00 AM ⁴ 5:45 AM | 6-7 mins | 8-10 mins | 12:30 AM 12:47 AM ³ | 5:01 AM 5:39 AM | 10 mins | 12:30 AM 12:47 AM ³ | 5:35AM 6:15AM | 12 mins | 12:30 AM 12:47 AM ³ | |
| Silver Line | | | | | | | | | | | |
| SL1 Logan Airport South Station | 5:38 AM 5:40 AM | 7-12 mins | 10-12 mins | f 1:03 AM w 1:02 AM | 5:48 AM 5:45 AM | 10-12 mins | 1:15 AM w 12:59 AM | 5:50AM 6:12AM | 10-12 mins | f 1:12 AM w 1:00 AM | |
| SL2 Design Center South Station | 6:07 AM 5:44 AM | 6 mins | 14-16 mins | 12:37 AM 12:50 AM | 6:03 AM 5:47 AM | 14-16 mins | 12:35 AM 12:45 AM | 6:51AM 6:35AM | 14-16 mins | 12:51 AM 12:36 AM | |
| SL3 Chelsea Station South Station | 4:55 AM 4:20 AM | 6-11 mins | 8-13 mins | f 1:05 AM w 12:35 AM | 5:30 AM 4:56 AM | 8-13 mins | 1:22 AM w 12:55 AM | 6:26AM 5:53AM | 8-13 mins | f 1:25 AM w 12:55 AM | |
| SL4 Nubian Station South Station | 5:20 AM 5:38 AM | 6-11 mins | 6-11 mins | 12:20 AM 12:37 AM | 5:23 AM 5:40 AM | 13-20 mins | 12:20 AM 12:40 AM | 6:02AM 6:20AM | 13-20 mins | 12:20 AM 12:40 AM | |
| SL5 Nubian Station Downtown Xing | 5:15 AM 5:32 AM | 11-14 mins | 13-20 mins | 12:51 AM w 1:07 AM | 5:19 AM 5:34 AM | 6-11 mins | 12:43 AM w 1:00 AM | 6:00AM 6:16AM | 6-11 mins | 12:25 AM w 12:47 AM | |

Route 77 Arlington Heights - Harvard Station



77

Effective August 30, 2020

Arlington Heights- Harvard Station

Serving

- Porter Station
- Arlington High School
- Arlington Center
- Harvard University
- Elm Street
- Red Line
- Fitchburg Commuter Rail



Massachusetts Bay Transportation Authority

Information 617-222-3310 • 1-800-392-4000
 (TTY) 617-222-5396 • www.mbta.com

77

Weekday

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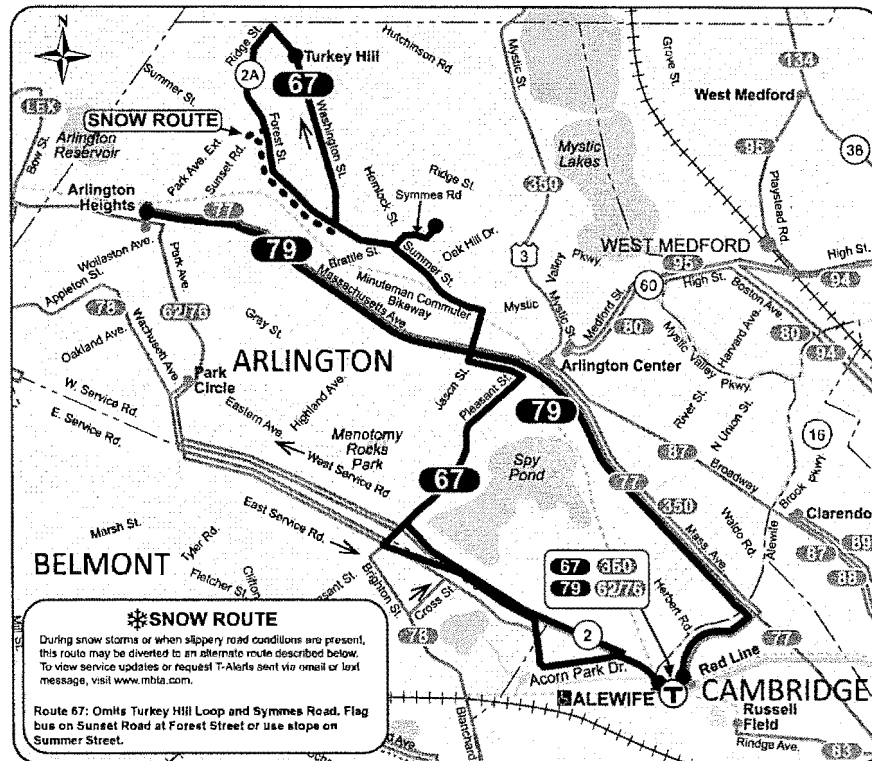
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Route 67 Turkey Hill - Alewife Station
Route 79 Arlington Heights - Alewife Station



Schedule Change

67•79

Effective August 30, 2020

67 Turkey Hill-Alewife Station
79 Arlington Heights-Alewife Station

Serving

- Arlington High School
- Arlington Town Hall
- Arlington Center
- Red Line

MBTA
 Massachusetts Bay Transportation Authority

Information 617-222-3300 • 1-800-388-6200
 (TTY) 617-222-3306 • www.mbta.com

| 67 Weekday | | | | | |
|-------------------|-------------------------|------------------------|-----------------------|-------------------------|--------------------|
| Inbound | | | Outbound | | |
| Leave Turkey Hill | Arrive Arlington Center | Arrive Alewife Station | Leave Alewife Station | Arrive Arlington Center | Arrive Turkey Hill |
| 6:18A | 6:23A | 6:32A | 5:53A | 6:00A | 6:15A |
| 6:52 | 6:57 | 7:07 | 6:26 | 6:33 | 6:48 |
| 7:22 | 7:29 | 7:43 | 6:59 | 7:06 | 7:21 |
| 7:49 | 7:56 | 8:10 | 7:24 | 7:31 | 7:47 |
| 8:17 | 8:24 | 8:39 | 7:53 | 8:00 | 8:16 |
| 8:45 | 8:50 | 9:03 | 8:23 | 8:30 | 8:44 |
| 9:12 | 9:17 | 9:27 | 8:49 | 8:56 | 9:10 |
| 10:02 | 10:07 | 10:17 | 9:39 | 9:46 | 10:00 |
| 10:52 | 10:57 | 11:07 | 10:29 | 10:36 | 10:50 |
| 11:42 | 11:47 | 11:56 | 11:19 | 11:26 | 11:40 |
| | | | | | |
| 12:32P | 12:37P | 12:46P | 12:09P | 12:16P | 12:30P |
| 1:22 | 1:27 | 1:36 | 12:59 | 1:06 | 1:20 |
| 2:12 | 2:17 | 2:26 | 1:48 | 1:55 | 2:10 |
| 3:02 | 3:07 | 3:16 | 2:38 | 2:47 | 3:02 |
| 3:52 | 3:57 | 4:06 | 3:27 | 3:36 | 3:51 |
| 4:42 | 4:47 | 4:56 | 4:17 | 4:26 | 4:41 |
| 5:10 | 5:16 | 5:26 | 4:44 | 4:55 | 5:10 |
| 5:37 | 5:43 | 5:53 | 5:11 | 5:22 | 5:37 |
| 6:05 | 6:11 | 6:21 | 5:38 | 5:49 | 6:04 |
| 6:32 | 6:36 | 6:45 | 6:05 | 6:16 | 6:31 |
| 6:57 | 7:01 | 7:10 | 6:33 | 6:41 | 6:56 |
| 7:37 | 7:41 | 7:49 | 7:15 | 7:23 | 7:37 |
| 8:20 | 8:24 | 8:32 | 7:58 | 8:05 | 8:18 |

Service Note: Route 67
Serves Symmes Road OUTBOUND ONLY.


Route 67
Turkey Hill-Alewife Station





| 79 Weekday | | | | | |
|-------------------------|-------------------------|------------------------|-----------------------|-------------------------|--------------------------|
| Inbound | | | Outbound | | |
| Leave Arlington Heights | Arrive Arlington Center | Arrive Alewife Station | Leave Alewife Station | Arrive Arlington Center | Arrive Arlington Heights |
| 6:35A | 6:41A | 6:55A | 7:02A | 7:09A | 7:19A |
| 7:00 | 7:06 | 7:20 | 7:30 | 7:38 | 7:52 |
| 7:30 | 7:39 | 7:59 | 8:10 | 8:16 | 8:26 |
| 8:00 | 8:06 | 8:24 | 8:35 | 8:41 | 8:51 |
| 8:30 | 8:36 | 8:54 | 9:30 | 9:36 | 9:46 |
| 9:00 | 9:05 | 9:20 | | | |
| 9:50 | 9:55 | 10:06 | | | |
| | | | | | |
| 2:20P | 2:26P | 2:39P | 2:00P | 2:06P | 2:16P |
| s 3:05 | 3:11 | 3:25 | 2:45 | 2:52 | 3:05 |
| s 3:15 | 3:21 | 3:34 | 3:10 | 3:17 | 3:28 |
| 3:20 | 3:26 | 3:39 | 3:30 | 3:37 | 3:48 |
| s 3:25 | 3:30 | 3:41 | 3:50 | 3:57 | 4:09 |
| 3:40 | 3:46 | 3:59 | 4:10 | 4:22 | 4:34 |
| 4:00 | 4:06 | 4:19 | 4:30 | 4:42 | 4:54 |
| 4:20 | 4:26 | 4:39 | 4:50 | 5:02 | 5:14 |
| 4:40 | 4:46 | 4:59 | 5:10 | 5:24 | 5:36 |
| 5:00 | 5:06 | 5:20 | 5:30 | 5:44 | 5:56 |
| 5:20 | 5:26 | 5:40 | 5:50 | 6:03 | 6:14 |
| 5:45 | 5:51 | 6:05 | 6:15 | 6:27 | 6:38 |
| 6:05 | 6:11 | 6:25 | 6:35 | 6:47 | 6:58 |
| 6:45 | 6:51 | 7:02 | 7:05 | 7:13 | 7:24 |

s - Leaves from Massachusetts Avenue at Appleton Street and does NOT run during school vacation

Route 79
Arlington Heights-Alewife Station

No service on weekends.

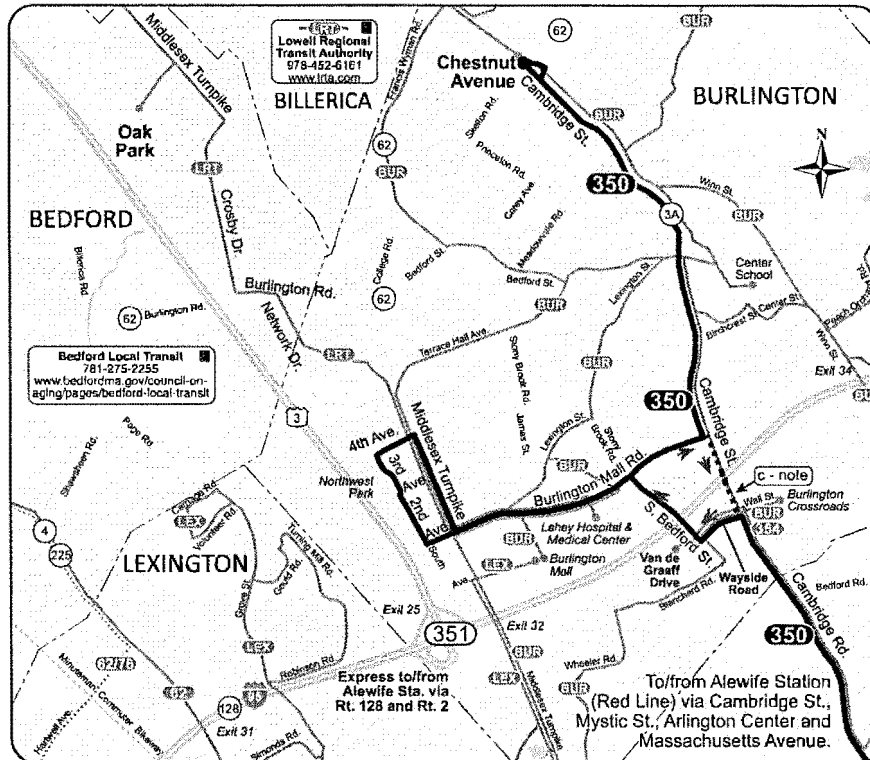
 All buses are accessible to persons with disabilities

| Fare |     | | | |
|----------------|---|-----------|---------------|---------------------|
| | Local Bus | Bus + Bus | Rapid Transit | Bus + Rapid Transit |
| CharlieCard | \$1.70 | \$1.70 | \$2.40 | \$2.40 |
| CharlieTicket | \$2.00 | \$2.00 | \$2.90 | \$4.90 |
| Cash-on-Board | \$2.00 | \$4.00 | \$2.90 | \$4.90 |
| Student/Youth* | \$0.85 | \$0.85 | \$1.10 | \$1.10 |
| Senior/TAP** | \$0.85 | \$0.85 | \$1.10 | \$1.10 |

VALID PASSES: LinkPass (\$90.00/mo.); Local Bus (\$55/mo.); *Student/Youth LinkPass (\$30.00/mo.); **Senior/TAP LinkPass (\$30/mo.); and express bus, commuter rail, and boat passes.
FREE FARES: Children 11 and under ride free when accompanied by an adult; Blind Access CharlieCard holders ride free and if using a guide, the guide rides free.
 * Requires Student CharlieCard or Youth CharlieCard. Student CharlieCards are available to students through participating middle schools and high schools. Youth CharlieCards are available through community partners in the Boston metro area. Visit www.mbta.com/youthpass for details.
 ** Requires Senior/TAP CharlieCard, available to Medicare cardholders, seniors 65+, and persons with disabilities.

Fall 2020 & Winter 2021 Holidays
 9/7/20: Sunday, 10/12/20 & 11/11/20: Weekday
 11/26/20, 12/25/20, & 1/1/21: Sun; 1/18/21 & 2/15/21: Sat

Route 350 North Burlington - Alewife Station
Route 351 Bedford Woods Dr - Alewife Station



Service/Schedule Change

350•351

Effective August 30, 2020

350 North Burlington-Alewife Station
351 Bedford Woods Dr - Alewife Station

Serving

- Burlington Mall
- Oak Park
- Northwest Park
- Red Line
- Lehey Hospital & Medical Center
- Four Corners
- Arlington Center

Massachusetts Bay Transportation Authority

Information 617-222-3700 • 1-800-392-4000
 (TTY) 617-222-5506 • www.mbta.com

350 & 351

Weekday

| Inbound | | | | | Outbound | | | | |
|----------------------------------|--------------------------------------|------------------------------------|-------------------------------|------------------------------|-----------------------------|-------------------------------|------------------------------------|--------------------------------------|-----------------------------------|
| Leave Chestnut & Cambridge | Arrive Burlington Mail Road | Arrive Woburn/ Burl. Line | Arrive Arlington Center | Arrive Alewife Station | Leave Alewife Station | Arrive Arlington Center | Arrive Woburn/ Burl. Line | Arrive Burlington Mail Road | Arrive Chestnut & Cambridge |
| 6:00A | ..... | 6:05A | 6:19A | 6:31A | b 5:53 | 6:00 | ..... | ..... | ..... |
| 6:20 | ..... | 6:25 | 6:42 | 7:02 | b 6:16 | 6:22 | 6:39 | 6:50 | 7:08 |
| 6:38 | ..... | 6:45 | 7:04 | 7:24 | b 6:36 | 6:42 | 6:59 | 7:09 | 7:25 |
| 6:53 | ..... | 7:00 | 7:19 | 7:41 | b 6:56 | 7:02 | 7:17 | 7:27 | 7:43 |
| 7:15 | ..... | 7:22 | 7:41 | 8:03 | 7:16 | 7:22 | 7:37 | 7:47 | 8:03 |
| 7:35 | ..... | 7:44 | 8:03 | 8:25 | 7:36 | 7:43 | 8:02 | 8:11 | 8:31 |
| 7:55 | ..... | 8:04 | 8:23 | 8:45 | 7:56 | 8:03 | 8:22 | 8:31 | 8:51 |
| 8:20 | 8:35A | 8:42 | 9:03 | 9:13 | 8:16 | 8:23 | 8:42 | 8:51 | 9:11 |
| 8:40 | 8:55 | 9:02 | 9:19 | 9:29 | 8:56 | 9:03 | 9:22 | 9:31 | 9:49 |
| 9:00 | 9:14 | 9:21 | 9:38 | 9:48 | 9:36 | 9:42 | 9:59 | 10:08 | 10:26 |
| 9:20 | 9:34 | 9:41 | 9:58 | 10:09 | 10:16 | 10:22 | 10:39 | 10:48 | 11:06 |
| 10:00 | 10:14 | 10:21 | 10:38 | 10:49 | 10:56 | 11:02 | 11:19 | 11:28 | 11:46 |
| 10:40 | 10:54 | 11:01 | 11:18 | 11:29 | 11:36 | 11:42 | 11:59 | 12:08P | 12:26P |
| 11:20 | 11:34 | 11:41 | 11:58 | 12:09P | 12:16P | 12:22P | 12:39P | 12:48 | 1:06 |
| 12:00N | 12:14P | 12:21P | 12:38P | 12:49 | 12:56 | 1:02 | 1:19 | 1:28 | 1:46 |
| 12:40 | 12:54 | 1:02 | 1:19 | 1:30 | 1:36 | 1:42 | 1:59 | 2:07 | 2:24 |
| 1:20 | 1:34 | 1:42 | 1:59 | 2:10 | 2:16 | 2:26 | 2:45 | 2:53 | 3:12 |
| 2:00 | 2:14 | 2:22 | 2:39 | 2:50 | 2:41 | 2:51 | 3:09 | 3:18 | 3:37 |
| 2:40 | 2:54 | 3:03 | 3:21 | 3:32 | 3:05 | 3:13 | 3:31 | 3:40 | 3:59 |
| 3:25 | 3:40 | 3:50 | 4:08 | 4:19 | 3:30 | 3:38 | 3:56 | 4:05 | 4:27 |
| 3:45 | 4:00 | 4:10 | 4:28 | 4:39 | 3:55 | 4:03 | 4:22 | 4:31 | 4:53 |
| 4:10 | 4:25 | 4:35 | 4:53 | 5:07 | 4:25 | 4:35 | 4:54 | 5:03 | 5:25 |
| 4:30 | 4:45 | 4:55 | 5:16 | 5:32 | 4:55 | 5:08 | 5:28 | ..... | 5:43 |
| 4:45 | 5:00 | 5:10 | 5:32 | 5:48 | 5:20 | 5:33 | 5:53 | ..... | 6:08 |
| 5:10 | 5:25 | 5:35 | 5:57 | 6:10 | 5:40 | 5:53 | 6:13 | ..... | 6:28 |
| 5:35 | 5:50 | 6:00 | 6:21 | 6:34 | 6:00 | 6:13 | 6:33 | ..... | 6:48 |
| 5:55 | 6:10 | 6:18 | 6:37 | 6:50 | 6:20 | 6:33 | 6:53 | ..... | 7:08 |
| 6:15 | 6:30 | 6:37 | 6:52 | 7:05 | 6:42 | 6:51 | 7:06 | 7:15 | 7:37 |
| 6:35 | 6:49 | 6:56 | 7:11 | 7:24 | 7:05 | 7:14 | 7:29 | 7:38 | 8:00 |
| 6:55 | 7:09 | 7:16 | 7:31 | 7:41 | 7:35 | 7:44 | 7:59 | 8:07 | 8:23 |
| 7:45 | 7:59 | 8:05 | 8:18 | 8:28 | 8:31 | 8:39 | 8:54 | 9:02 | 9:17 |
| 8:35 | 8:49 | 8:55 | 9:08 | 9:18 | 9:25 | 9:33 | 9:48 | 9:56 | 10:11 |
| 9:30 | 9:44 | 9:50 | 10:03 | 10:13 | 10:20 | 10:32 | 10:50 | ..... | 11:05 |
| 10:25 | 10:39 | 10:45 | 10:58 | 11:08 | | | | | |

Route 351 indicated by shaded areas

ROUTE 351 FARES

| Fare | Local Bus | Inner Express | Outer Express | Senior |
|----------------|-----------|---------------|---------------|--------|
| CharlieCard | \$1.70 | \$4.25 | \$4.25 | \$4.25 |
| CharlieTicket | \$2.00 | \$5.25 | \$7.25 | \$8.15 |
| Cash-on-Board | \$2.00 | \$4.00 | \$2.90 | \$4.90 |
| Student/Youth* | \$0.85 | \$2.10 | \$2.10 | \$2.10 |
| Senior/TAP** | \$0.85 | \$2.10 | \$2.10 | \$2.10 |

VALID PASSES on 442/442: LinkPass (\$90.00/mo.); Local Bus (\$55/mo.); *Student/Youth LinkPass (\$30.00/mo.); **Senior/TAP LinkPass (\$30.00/mo.); and express bus, commuter rail, and boat passes.

FREE PASSES: Children 11 and under ride free when accompanied by an adult; Blind Access CharlieCard holders ride free and if using a guide, the guide rides free.

ROUTE 350 FARES

| Fare | Local Bus | Bus + Bus | Rapid Transit | Bus + Rapid Transit |
|----------------|-----------|-----------|---------------|---------------------|
| CharlieCard | \$1.70 | \$1.70 | \$2.40 | \$2.40 |
| CharlieTicket | \$2.00 | \$2.00 | \$2.90 | \$4.90 |
| Cash-on-Board | \$2.00 | \$4.00 | \$2.90 | \$4.90 |
| Student/Youth* | \$0.85 | \$0.85 | \$1.10 | \$1.10 |
| Senior/TAP** | \$0.85 | \$0.85 | \$1.10 | \$1.10 |

VALID PASSES: LinkPass (\$90.00/mo.); Local Bus (\$55/mo.); *Student/Youth LinkPass (\$30.00/mo.); **Senior/TAP LinkPass (\$30.00/mo.); and express bus, commuter rail, and boat passes.

FREE PASSES: Children 11 and under ride free when accompanied by an adult; Blind Access CharlieCard holders ride free and if using a guide, the guide rides free.

350

Saturday

| Inbound | | | Outbound | | |
|----------------------------------|--------------------------------------|------------------------------|-----------------------------|--------------------------------------|-----------------------------------|
| Leave Chestnut & Cambridge | Arrive Burlington Mail Road | Arrive Alewife Station | Leave Alewife Station | Arrive Burlington Mail Road | Arrive Chestnut & Cambridge |
| 7:10A | ..... | 7:38A | 6:25A | 6:51A | 7:05A |
| 7:50 | ..... | 8:18 | 7:05 | 7:31 | 7:45 |
| 8:30 | 8:45A | 9:14 | 7:45 | 8:11 | 8:25 |
| 9:30 | 9:45 | 10:17 | 8:30 | 8:59 | 9:18 |
| 10:30 | 10:46 | 11:19 | 9:30 | 10:01 | 10:22 |
| 11:30 | 11:46 | 12:21P | 10:30 | 11:01 | 11:22 |
| | | | 11:30 | 12:01P | 12:21P |
| 12:30P | 12:46P | 1:25 | | | |
| 1:30 | 1:46 | 2:25 | 12:30P | 1:02 | 1:22 |
| 2:30 | 2:46 | 3:21 | 1:30 | 2:02 | 2:22 |
| 3:30 | 3:46 | 4:21 | 2:30 | 3:02 | 3:22 |
| 4:30 | 4:46 | 5:20 | 3:30 | 4:01 | 4:19 |
| 5:30 | 5:46 | 6:17 | 4:30 | 4:58 | 5:16 |
| 6:25 | 6:41 | 7:10 | 5:30 | 5:55 | 6:13 |
| 7:20 | 7:35 | 8:04 | 6:25 | 6:50 | 7:08 |
| 8:10 | 8:25 | 8:54 | 7:15 | 7:40 | 7:58 |
| 9:00 | 9:15 | 9:44 | 8:10 | 8:33 | 8:52 |
| 9:50 | 10:05 | 10:34 | 9:00 | 9:23 | 9:42 |
| | | | 9:50 | ..... | 10:20 |
| | | | 10:40 | ..... | 11:10 |

NOTE:
Route 351 Alewife service
operates via Berth 8

Route 351 may be
limited or
suspended. Visit
mbta.com for latest
updates.

350

Sunday

| Inbound | | | Outbound | | |
|----------------------------------|--------------------------------------|------------------------------|-----------------------------|--------------------------------------|-----------------------------------|
| Leave Chestnut & Cambridge | Arrive Burlington Mail Road | Arrive Alewife Station | Leave Alewife Station | Arrive Burlington Mail Road | Arrive Chestnut & Cambridge |
| 7:55A | ..... | 8:24A | 7:05A | 7:31A | 7:49A |
| 9:20 | ..... | 9:52 | 8:30 | 8:57 | 9:16 |
| 10:50 | ..... | 11:22 | 9:55 | 10:24 | 10:43 |
| | | | 11:25 | 11:54 | 12:13P |
| 12:20P | 12:34P | 1:06P | | | |
| 1:15 | 1:29 | 2:00 | 12:20P | 12:49P | 1:08 |
| 2:10 | 2:24 | 2:56 | 1:15 | 1:45 | 2:04 |
| 3:05 | 3:19 | 3:53 | 2:10 | 2:38 | 2:57 |
| 4:00 | 4:14 | 4:50 | 3:05 | 3:33 | 3:52 |
| 4:55 | 5:09 | 5:42 | 4:00 | 4:28 | 4:47 |
| 5:50 | 6:04 | 6:37 | 4:55 | 5:23 | 5:42 |
| 6:50 | 7:04 | 7:35 | 5:50 | 6:18 | 6:37 |
| | | | 6:50 | ..... | 7:26 |

All buses are accessible to
persons with disabilities

b - Omits Northwest Park

Route 350
North Burlington-
Alewife Station

Route 351
Bedford Woods Dr -
Alewife Station

Fall 2020 & Winter 2021 Holidays
9/7/20, Sunday; 10/12/20 & 11/11/20: Weekday
11/26/20, 12/25/20, & 1/1/21: Sun; 1/18/21 & 2/15/21: Sat

□ Trip Generation

Institute of Transportation Engineers (ITE) 10th Edition
Land Use Code (LUC) 820 - Shopping Center

Average Vehicle Trips Ends vs: 1,000 Sq. Feet Gross Leasable Area
 Independent Variable (X): 1.735

AVERAGE WEEKDAY DAILY

$T = 37.75 * (X)$
 $T = 37.75 * 1.74$
 $T = 65.50$
 $T = 66$ vehicle trips
 with 50% (33 vpd) entering and 50% (33 vpd) exiting.

WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC

$T = 0.94 * (X)$
 $T = 0.94 * 1.74$
 $T = 1.63$
 $T = 2$ vehicle trips
 with 62% (1 vph) entering and 38% (1 vph) exiting.

WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC

$T = 3.81 * (X)$
 $T = 3.81 * 1.74$
 $T = 6.61$
 $T = 7$ vehicle trips
 with 48% (3 vph) entering and 52% (4 vph) exiting.

SATURDAY DAILY

$T = 46.12 * (X)$
 $T = 46.12 * 1.74$
 $T = 80.02$
 $T = 80$ vehicle trips
 with 50% (40 vpd) entering and 50% (40 vpd) exiting.

SATURDAY MIDDAY PEAK HOUR OF GENERATOR

$T = 4.50 * (X)$
 $T = 4.50 * 1.74$
 $T = 7.81$
 $T = 8$ vehicle trips
 with 52% (4 vph) entering and 48% (4 vph) exiting.

Summary

| | | | |
|------------------|---------------|----------------|------------------|
| Pass-By: | 0.34 Weekday | | |
| Pass-By: | 0.26 Saturday | | |
| | <u>Total</u> | <u>Pass-By</u> | <u>Net New</u> |
| AM | | | |
| In | 1 | 0 | 1 |
| Out | <u>1</u> | <u>0</u> | <u>1</u> |
| Total | 2 | 0 | 2 |
| PM | | | |
| In | 3 | 1 | 2 |
| Out | <u>4</u> | <u>1</u> | <u>3</u> |
| Total | 7 | 2 | 5 |
| Sat | | | |
| In | 4 | 1 | 3 |
| Out | <u>4</u> | <u>1</u> | <u>3</u> |
| Total | 8 | 2 | 6 |
| Daily | | | |
| In | 33 | 11 | 22 |
| Out | <u>33</u> | <u>11</u> | <u>22</u> |
| Total | 66 | 22 | 44 |
| Sat Daily | | | |
| In | 40 | 10 | 30 |
| Out | <u>40</u> | <u>10</u> | <u>30</u> |
| Total | 80 | 20 | 60 |

Institute of Transportation Engineers (ITE) 10th Edition
Land Use Code (LUC) 221 - Multifamily Housing (Mid-Rise)

Average Vehicle Trips Ends vs: Dwelling Units
Independent Variable (X): 37

AVERAGE WEEKDAY DAILY

$$T = 5.44 * X$$

$$T = 5.44 * 37$$

$$T = 201.28$$

T = 202 vehicle trips

with 50% (101 vpd) entering and 50% (101 vpd) exiting.

WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC

$$T = 0.36 * X$$

$$T = 0.36 * 37$$

$$T = 13.32$$

T = 13 vehicle trips

with 26% (3 vph) entering and 74% (10 vph) exiting.

WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC

$$T = 0.44 * X$$

$$T = 0.44 * 37$$

$$T = 16.28$$

T = 16 vehicle trips

with 61% (10 vph) entering and 39% (6 vph) exiting.

SATURDAY DAILY

$$T = 4.91 * X$$

$$T = 4.91 * 37$$

$$T = 181.67$$

T = 182 vehicle trips

with 50% (91 vpd) entering and 50% (91 vpd) exiting.

SATURDAY MIDDAY PEAK HOUR OF GENERATOR

$$T = 0.44 * X$$

$$T = 0.44 * 37$$

$$T = 16.28$$

T = 16 vehicle trips

with 49% (8 vph) entering and 51% (8 vph) exiting.

Institute of Transportation Engineers (ITE) 10th Edition
Land Use Code (LUC) 820 - Shopping Center

Average Vehicle Trips Ends vs: 1,000 Sq. Feet Gross Leasable Area
 Independent Variable (X): 10.500

AVERAGE WEEKDAY DAILY

$T = 37.75 * (X)$
 $T = 37.75 * 10.50$
 $T = 396.38$
 $T = 396$ vehicle trips
 with 50% (198 vpd) entering and 50% (198 vpd) exiting.

WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC

$T = 0.94 * (X)$
 $T = 0.94 * 10.50$
 $T = 9.87$
 $T = 10$ vehicle trips
 with 62% (6 vph) entering and 38% (4 vph) exiting.

WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC

$T = 3.81 * (X)$
 $T = 3.81 * 10.50$
 $T = 40.01$
 $T = 40$ vehicle trips
 with 48% (19 vph) entering and 52% (21 vph) exiting.

SATURDAY DAILY

$T = 46.12 * (X)$
 $T = 46.12 * 10.50$
 $T = 484.26$
 $T = 484$ vehicle trips
 with 50% (242 vpd) entering and 50% (242 vpd) exiting.

SATURDAY MIDDAY PEAK HOUR OF GENERATOR

$T = 4.50 * (X)$
 $T = 4.50 * 10.50$
 $T = 47.25$
 $T = 47$ vehicle trips
 with 52% (24 vph) entering and 48% (23 vph) exiting.

Summary

| | | | |
|------------------|---------------|----------------|----------------|
| Pass-By: | 0.34 Weekday | | |
| Pass-By: | 0.26 Saturday | | |
| | <u>Total</u> | <u>Pass-By</u> | <u>Net New</u> |
| AM | | | |
| In | 6 | 2 | 4 |
| Out | <u>4</u> | <u>2</u> | <u>2</u> |
| Total | 10 | 4 | 6 |
| PM | | | |
| In | 19 | 7 | 12 |
| Out | <u>21</u> | <u>7</u> | <u>14</u> |
| Total | 40 | 14 | 26 |
| Sat | | | |
| In | 24 | 6 | 18 |
| Out | <u>23</u> | <u>6</u> | <u>17</u> |
| Total | 47 | 12 | 35 |
| Daily | | | |
| In | 198 | 67 | 131 |
| Out | <u>198</u> | <u>67</u> | <u>131</u> |
| Total | 396 | 134 | 262 |
| Sat Daily | | | |
| In | 242 | 63 | 179 |
| Out | <u>242</u> | <u>63</u> | <u>179</u> |
| Total | 484 | 126 | 358 |

□ Census Information

MEANS OF TRANSPORTATION TO WORK BY VEHICLES AVAILABLE

Note: This is a modified view of the original table produced by the U.S. Census Bureau. This download or printed version may have missing information from the original table.

| Census Tract 3561, Middlesex County, Massachusetts | | |
|--|----------|-----------------|
| Label | Estimate | Margin of Error |
| ▼ Total: | 2,051 | ±155 |
| No vehicle available | 153 | ±92 |
| 1 vehicle available | 947 | ±183 |
| 2 vehicles available | 760 | ±179 |
| 3 or more vehicles available | 191 | ±130 |
| ▼ Car, truck, or van - drove alone: | 880 | ±171 |
| No vehicle available | 0 | ±12 |
| 1 vehicle available | 268 | ±84 |
| 2 vehicles available | 478 | ±145 |
| 3 or more vehicles available | 134 | ±88 |
| ▼ Car, truck, or van - carpooled: | 237 | ±96 |
| No vehicle available | 30 | ±49 |
| 1 vehicle available | 110 | ±57 |
| 2 vehicles available | 53 | ±59 |
| 3 or more vehicles available | 44 | ±50 |
| ▼ Public transportation (excluding taxicab): | 649 | ±144 |
| No vehicle available | 89 | ±66 |
| 1 vehicle available | 385 | ±130 |
| 2 vehicles available | 175 | ±83 |
| 3 or more vehicles available | 0 | ±12 |
| ▼ Walked: | 0 | ±12 |
| No vehicle available | 0 | ±12 |
| 1 vehicle available | 0 | ±12 |
| 2 vehicles available | 0 | ±12 |
| 3 or more vehicles available | 0 | ±12 |
| ▼ Taxicab, motorcycle, bicycle, or other means: | 152 | ±65 |
| No vehicle available | 26 | ±31 |

MEANS OF TRANSPORTATION TO WORK BY VEHICLES AVAILABLE

Survey/Program:
American Community Survey
Universe:
Workers 16 years and over in households
Year:
2018
Estimates:
5-Year
Table ID:
B08141

Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities, and towns and estimates of housing units for states and counties.

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see ACS Technical Documentation). The effect of nonsampling error is not represented in these tables.

Workers include members of the Armed Forces and civilians who were at work last week.

While the 2014-2018 American Community Survey (ACS) data generally reflect the February 2013 Office of Management and Budget (OMB) definitions of metropolitan and micropolitan statistical areas; in certain instances the names, codes, and boundaries of the principal cities shown in ACS tables may differ from the OMB definitions due to differences in the effective dates of the geographic entities.

Estimates of urban and rural populations, housing units, and characteristics reflect boundaries of urban areas defined based on Census 2010 data. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of ongoing urbanization.

Explanation of Symbols:

- An "***" entry in the margin of error column indicates that either no sample observations or too few sample observations were available to compute a standard error and thus the margin of error. A statistical test is not appropriate.
- An "-" entry in the estimate column indicates that either no sample observations or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both of the median estimates falls in the lowest interval or upper interval of an open-ended distribution, or the margin of error associated with a median was larger than the median itself.
- An "-" following a median estimate means the median falls in the lowest interval of an open-ended distribution.
- An "+" following a median estimate means the median falls in the upper interval of an open-ended distribution.
- An "****" entry in the margin of error column indicates that the median falls in the lowest interval or upper interval of an open-ended distribution. A statistical test is not appropriate.
- An "*****" entry in the margin of error column indicates that the estimate is controlled. A statistical test for sampling variability is not appropriate.

March 10, 2021

Jennifer Raitt
Director of Planning & Community
Development
730 Massachusetts Ave
Arlington, MA 02476

RE: Mixed-Use Redevelopment
Drainage Summary Letter
190 & 192-200 Massachusetts Ave
Arlington, MA 02476

Dear Ms. Raitt,

On behalf of our Client, 192-200 Massachusetts Ave, LLC, Allen & Major Associates (A&M) is pleased to provide this letter in support of the Special Permit application for the Mixed-Use Redevelopment project at 190 & 192-200 Massachusetts Ave. This letter will summarize the changes to the stormwater management system which are proposed as part of the redevelopment efforts.

Existing Conditions

The site is located on the corner of Lake Street and Massachusetts Avenue and Chandler Street and Massachusetts Avenue. There is an existing curb cut to the parcel located off of Chandler Street. The project comprised of two property's, identified on the City tax Map 6, Block 3, Lots 1A and 1B. Both lots are predominantly covered by an existing brick building. Elevations onsite range from elevation 29 to elevation 24. Elevation 24 is the low point on-site located at the existing curb cut along Chandler Street, and elevation 29 runs through the sidewalk along Mass Ave. The majority of the stormwater from the site discharges through roof drain connections to the municipal system. A review of the NRCS soil report for Middlesex County indicates that the soil onsite is considered Merrimac-Urban Land which has a Hydrologic Soil Group rating of an "A". A copy of the Existing Watershed Plan is included herewith.

Proposed Conditions

The project, proposes to demolish a portion of the existing structure to construct a 5-story, 9,764 square foot Mixed-Use building with apartment and retail uses. There are 15 parking stalls proposed on the first level. The stormwater management system will be improved with a new drainage pipe connection. The quantity of stormwater runoff will be reduced with the installation of landscaped areas on-site. The proposed work with result in approximately 701 square feet of impervious material being replaced with landscaped areas.

Runoff flows were estimated for both pre and post development conditions using HydroCAD 10.00 software, at a specific "Study Point" (SP-1). Study Point 1 is the flows that will enter the municipal drainage system. The table below shows that the project causes a reduction in the peak rate of runoff and volume of stormwater leaving the site at the Study Point. Copies of the HydroCAD worksheets and Watershed Plans are included herewith.

| STUDY POINT #1 (flow to municipal system) | | | |
|--|-------------|-------------|-------------|
| | 2-Year | 10-Year | 100-Year |
| Existing Flow (CFS) | 0.83 | 1.27 | 2.31 |
| Proposed Flow (CFS) | 0.76 | 1.22 | 2.28 |
| Decrease (CFS) | 0.07 | 0.05 | 0.03 |
| Existing Volume (CF) | 2,781 | 4,327 | 8,025 |
| Proposed Volume (CF) | 2,387 | 3,906 | 7,578 |
| Decrease (CF) | 394 | 421 | 447 |

The surface water drainage requirements of the Town of Arlington Zoning Bylaw Environmental Design Review Standards have been reviewed and met with the proposed design. The proposed project will introduce landscaped areas to the site to reduce the impervious area. The Town of Arlington, Article 15 Stormwater Mitigation, shall not apply as the proposed development will introduce a reduction in impervious area. However, with the proposed landscaped areas the project will reduce the runoff rates for all design storms, and comply with this bylaw.

Summary

As shown in the table above, the proposed development will have a positive impact on the stormwater management system by reducing the rate and volume of stormwater runoff from the site.

Very truly yours,

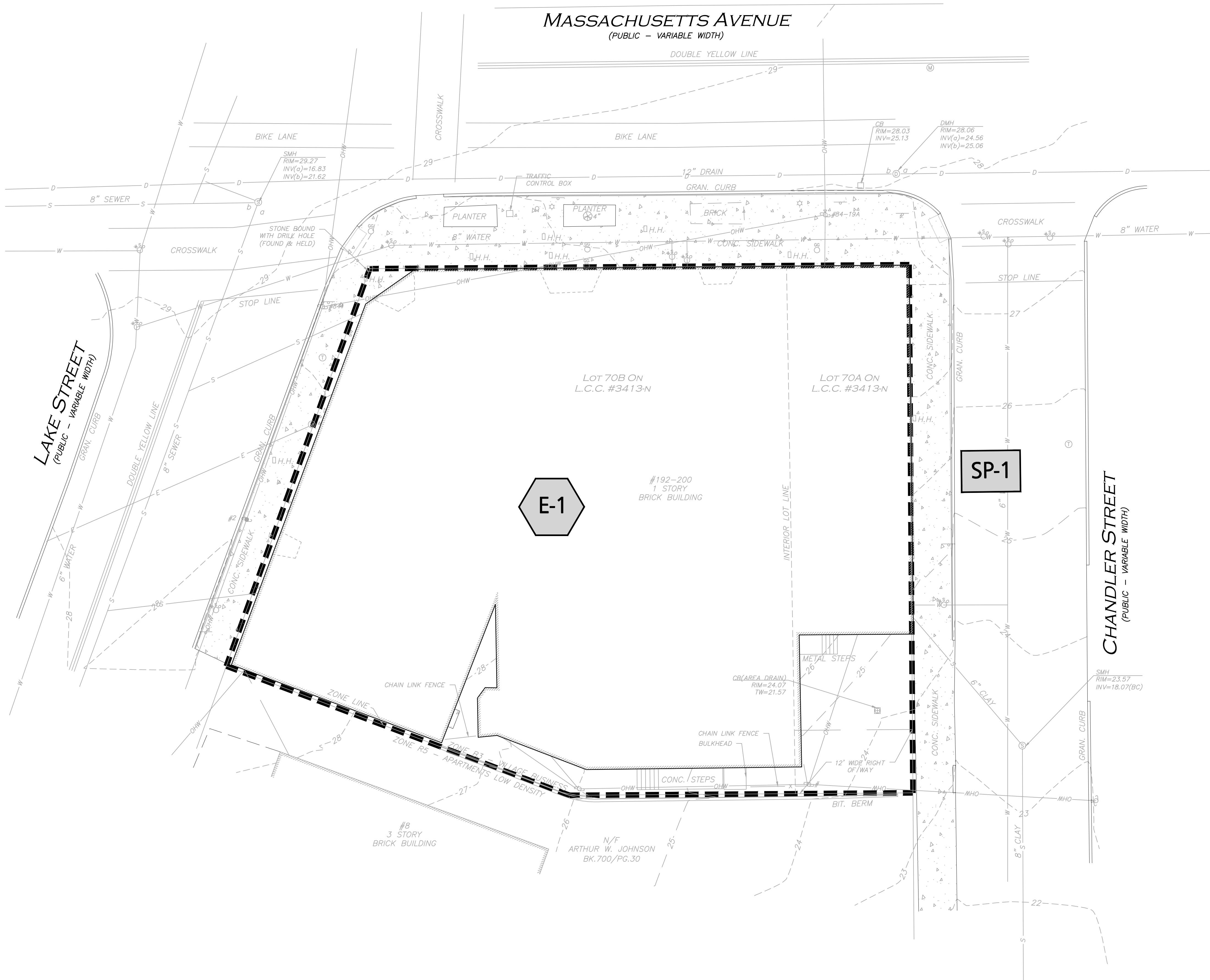
ALLEN & MAJOR ASSOCIATES, INC.

Aaron Mackey, PE
Project Engineer



Attachments:

1. Existing Watershed Plan
2. Proposed Watershed Plan
3. Pre development HydroCAD Calculations
4. Post development HydroCAD Calculations
5. Extreme Precipitation Tables
6. NRCS Soil Report



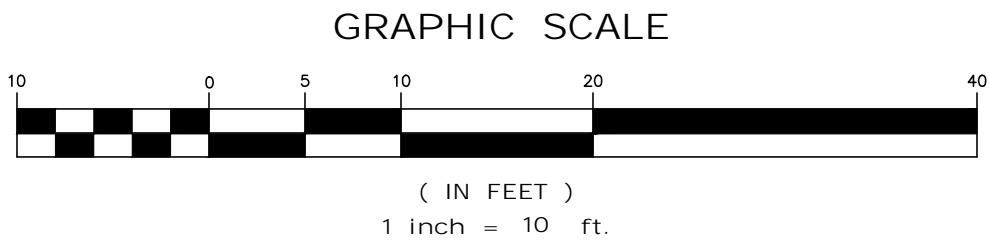
LEGEND

EXISTING WATERSHED

SUBCATCHMENT BOUNDARY

SUBCATCHMENT LABEL

E-1



| | | |
|-----|------------|-----------------------|
| 1 | 03/10/2021 | ISSUED FOR ARB REVIEW |
| REV | DATE | DESCRIPTION |

APPLICANT/OWNER:
192-200 MASSACHUSETTS AVE, LLC
455 MASSACHUSETTS AVE, STE 1
ARLINGTON, MA 02474

PROJECT:
190 & 192-200
MASSACHUSETTS AVE
ARLINGTON, MA 02476

PROJECT NO. 2729-02 DATE: 10/23/2020

SCALE: 1" = 10' DWG. NAME: C2729-02

DESIGNED BY: ARM CHECKED BY: BDJ

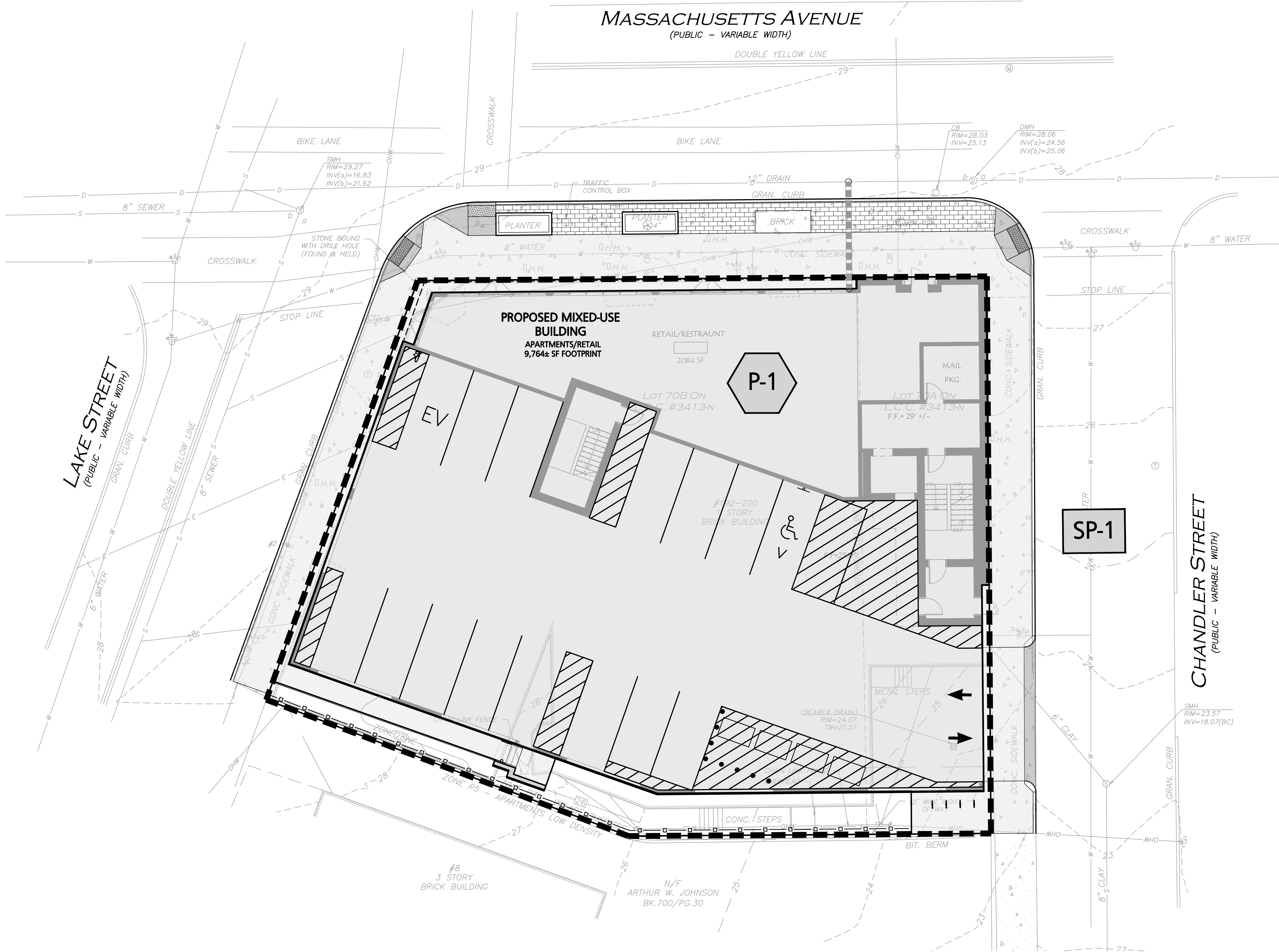
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www.allenmajor.com
100 COMMERCE WAY, SUITE 5
WOBURN MA 01801
TEL: (781) 935-6889
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| | |
|-------------------------|-----------|
| DRAWING TITLE: | SHEET No. |
| EXISTING WATERSHED PLAN | EWP |



LEGEND

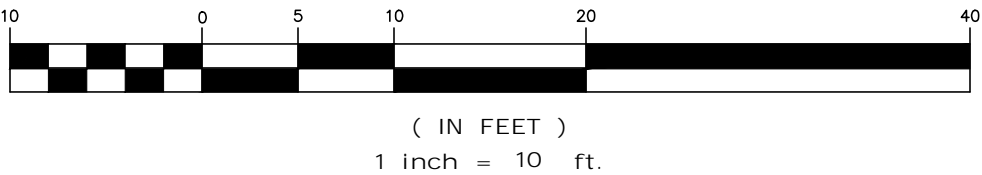
- EXISTING WATERSHED
PROPOSED WATERSHED
SUBCATCHMENT LABEL
SUBCATCHMENT BOUNDARY

P-1

LAKE STREET
(PUBLIC - VARIABLE WIDTH)

CHANDLER STREET
(PUBLIC - VARIABLE WIDTH)

GRAPHIC SCALE



| REV | DATE | DESCRIPTION |
|-----|------------|-----------------------|
| 1 | 03/10/2021 | ISSUED FOR ARB REVIEW |

APPLICANT/OWNER:
192-200 MASSACHUSETTS AVE, LLC
455 MASSACHUSETTS AVE, STE 1
ARLINGTON, MA 02474

PROJECT:
190 & 192-200
MASSACHUSETTS AVE
ARLINGTON, MA 02476

| | | | |
|--------------|----------|-------------|------------|
| PROJECT NO. | 2729-02 | DATE: | 10/23/2020 |
| SCALE: | 1" = 10' | DWG. NAME: | C2729-02 |
| DESIGNED BY: | ARM | CHECKED BY: | BDJ |

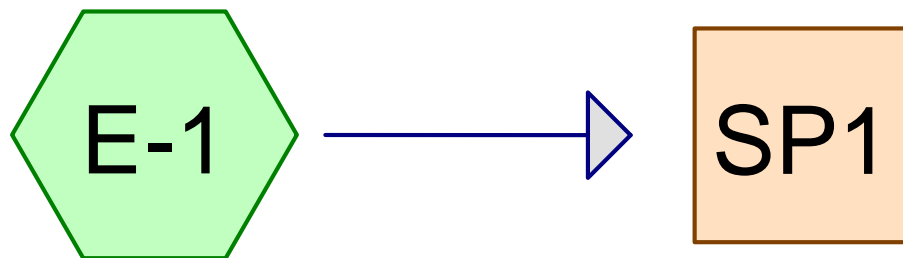
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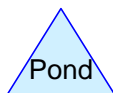
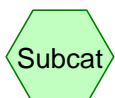
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| | |
|-------------------------|-----------|
| DRAWING TITLE: | SHEET No. |
| PROPOSED WATERSHED PLAN | PWP |



Subcat E-1

Study Point 1



2729-02_Existing-Conditions

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Page 2

Area Listing (all nodes)

| Area (sq-ft) | CN | Description (subcatchment-numbers) |
|-----------------|-----------|---------------------------------------|
| 1,238 | 98 | Paved parking, HSG A (E-1) |
| 9,896 | 98 | Roofs, HSG A (E-1) |
| 11,134 | 98 | TOTAL AREA |

2729-02_Existing-Conditions

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Page 3

Soil Listing (all nodes)

| Area (sq-ft) | Soil Group | Subcatchment Numbers |
|-----------------|---------------|-------------------------|
| 11,134 | HSG A | E-1 |
| 0 | HSG B | |
| 0 | HSG C | |
| 0 | HSG D | |
| 0 | Other | |
| 11,134 | | TOTAL AREA |

2729-02_Existing-Conditions

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Ground Covers (all nodes)

| HSG-A (sq-ft) | HSG-B (sq-ft) | HSG-C (sq-ft) | HSG-D (sq-ft) | Other (sq-ft) | Total (sq-ft) | Ground Cover | Subcatchment Numbers |
|------------------|------------------|------------------|------------------|------------------|------------------|-------------------|-------------------------|
| 1,238 | 0 | 0 | 0 | 0 | 1,238 | Paved parking | E-1 |
| 9,896 | 0 | 0 | 0 | 0 | 9,896 | Roofs | E-1 |
| 11,134 | 0 | 0 | 0 | 0 | 11,134 | TOTAL AREA | |

2729-02_Existing-Conditions

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Type III 24-hr 2-Year Rainfall=3.23"

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Page 5

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points x 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment E-1: Subcat E-1

Runoff Area=11,134 sf 100.00% Impervious Runoff Depth=3.00"

Tc=5.0 min CN=98 Runoff=0.83 cfs 2,781 cf

Reach SP1: Study Point 1

Inflow=0.83 cfs 2,781 cf

Outflow=0.83 cfs 2,781 cf

Total Runoff Area = 11,134 sf Runoff Volume = 2,781 cf Average Runoff Depth = 3.00"
0.00% Pervious = 0 sf 100.00% Impervious = 11,134 sf

2729-02_Existing-Conditions

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Type III 24-hr 2-Year Rainfall=3.23"

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Page 6

Summary for Subcatchment E-1: Subcat E-1

Runoff = 0.83 cfs @ 12.07 hrs, Volume= 2,781 cf, Depth= 3.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.23"

| Area (sf) | CN | Description |
|-----------|----|-------------------------|
| 1,238 | 98 | Paved parking, HSG A |
| 9,896 | 98 | Roofs, HSG A |
| 11,134 | 98 | Weighted Average |
| 11,134 | | 100.00% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|-------------|------------------|------------------|----------------------|-------------------|-----------------------|
| 5.0 | | | | | Direct Entry, Assumed |

Summary for Reach SP1: Study Point 1

Inflow Area = 11,134 sf, 100.00% Impervious, Inflow Depth = 3.00" for 2-Year event

Inflow = 0.83 cfs @ 12.07 hrs, Volume= 2,781 cf

Outflow = 0.83 cfs @ 12.07 hrs, Volume= 2,781 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3

2729-02_Existing-Conditions

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Type III 24-hr 10-Year Rainfall=4.90"

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Page 7

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points x 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment E-1: Subcat E-1

Runoff Area=11,134 sf 100.00% Impervious Runoff Depth=4.66"

Tc=5.0 min CN=98 Runoff=1.27 cfs 4,327 cf

Reach SP1: Study Point 1

Inflow=1.27 cfs 4,327 cf

Outflow=1.27 cfs 4,327 cf

Total Runoff Area = 11,134 sf Runoff Volume = 4,327 cf Average Runoff Depth = 4.66"
0.00% Pervious = 0 sf 100.00% Impervious = 11,134 sf

2729-02_Existing-Conditions

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Type III 24-hr 10-Year Rainfall=4.90"

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Page 8

Summary for Subcatchment E-1: Subcat E-1

Runoff = 1.27 cfs @ 12.07 hrs, Volume= 4,327 cf, Depth= 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

| Area (sf) | CN | Description |
|-----------|----|-------------------------|
| 1,238 | 98 | Paved parking, HSG A |
| 9,896 | 98 | Roofs, HSG A |
| 11,134 | 98 | Weighted Average |
| 11,134 | | 100.00% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|-------------|------------------|------------------|----------------------|-------------------|-----------------------|
| 5.0 | | | | | Direct Entry, Assumed |

Summary for Reach SP1: Study Point 1

Inflow Area = 11,134 sf, 100.00% Impervious, Inflow Depth = 4.66" for 10-Year event

Inflow = 1.27 cfs @ 12.07 hrs, Volume= 4,327 cf

Outflow = 1.27 cfs @ 12.07 hrs, Volume= 4,327 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3

2729-02_Existing-Conditions

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Type III 24-hr 100-Year Rainfall=8.89"

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Page 9

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points x 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment E-1: Subcat E-1

Runoff Area=11,134 sf 100.00% Impervious Runoff Depth=8.65"

Tc=5.0 min CN=98 Runoff=2.31 cfs 8,025 cf

Reach SP1: Study Point 1

Inflow=2.31 cfs 8,025 cf

Outflow=2.31 cfs 8,025 cf

Total Runoff Area = 11,134 sf Runoff Volume = 8,025 cf Average Runoff Depth = 8.65"
0.00% Pervious = 0 sf 100.00% Impervious = 11,134 sf

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Type III 24-hr 100-Year Rainfall=8.89"

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Summary for Subcatchment E-1: Subcat E-1

Runoff = 2.31 cfs @ 12.07 hrs, Volume= 8,025 cf, Depth= 8.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=8.89"

| Area (sf) | CN | Description |
|-----------|----|-------------------------|
| 1,238 | 98 | Paved parking, HSG A |
| 9,896 | 98 | Roofs, HSG A |
| 11,134 | 98 | Weighted Average |
| 11,134 | | 100.00% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|-------------|------------------|------------------|----------------------|-------------------|-----------------------|
| 5.0 | | | | | Direct Entry, Assumed |

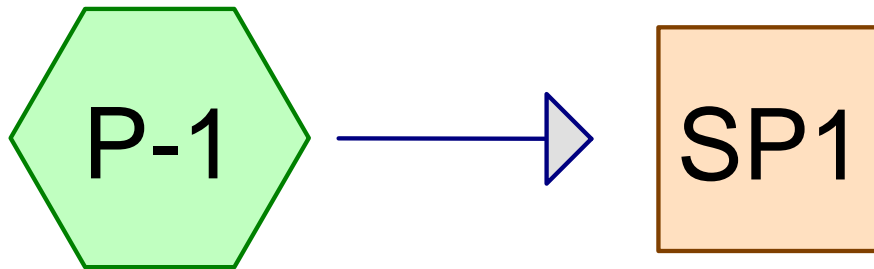
Summary for Reach SP1: Study Point 1

Inflow Area = 11,134 sf, 100.00% Impervious, Inflow Depth = 8.65" for 100-Year event

Inflow = 2.31 cfs @ 12.07 hrs, Volume= 8,025 cf

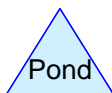
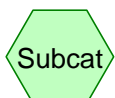
Outflow = 2.31 cfs @ 12.07 hrs, Volume= 8,025 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3



Subcat P-1

Study Point 1



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Page 2

Area Listing (all nodes)

| Area (sq-ft) | CN | Description (subcatchment-numbers) |
|-----------------|-----------|---------------------------------------|
| 701 | 39 | >75% Grass cover, Good, HSG A (P-1) |
| 669 | 98 | Paved parking, HSG A (P-1) |
| 9,764 | 98 | Roofs, HSG A (P-1) |
| 11,134 | 94 | TOTAL AREA |

2729-02_Proposed-Conditions

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Page 3

Soil Listing (all nodes)

| Area (sq-ft) | Soil Group | Subcatchment Numbers |
|-----------------|---------------|-------------------------|
| 11,134 | HSG A | P-1 |
| 0 | HSG B | |
| 0 | HSG C | |
| 0 | HSG D | |
| 0 | Other | |
| 11,134 | | TOTAL AREA |

2729-02_Proposed-Conditions

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Page 4

Ground Covers (all nodes)

| HSG-A (sq-ft) | HSG-B (sq-ft) | HSG-C (sq-ft) | HSG-D (sq-ft) | Other (sq-ft) | Total (sq-ft) | Ground Cover | Subcatchment Numbers |
|------------------|------------------|------------------|------------------|------------------|------------------|------------------------|-------------------------|
| 701 | 0 | 0 | 0 | 0 | 701 | >75% Grass cover, Good | P-1 |
| 669 | 0 | 0 | 0 | 0 | 669 | Paved parking | P-1 |
| 9,764 | 0 | 0 | 0 | 0 | 9,764 | Roofs | P-1 |
| 11,134 | 0 | 0 | 0 | 0 | 11,134 | TOTAL AREA | |

2729-02_Proposed-Conditions

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Type III 24-hr 2-Year Rainfall=3.23"

Printed 3/10/2021

Page 5

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points x 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment P-1: Subcat P-1

Runoff Area=11,134 sf 93.71% Impervious Runoff Depth=2.57"

Tc=5.0 min CN=94 Runoff=0.76 cfs 2,387 cf

Reach SP1: Study Point 1

Inflow=0.76 cfs 2,387 cf

Outflow=0.76 cfs 2,387 cf

Total Runoff Area = 11,134 sf Runoff Volume = 2,387 cf Average Runoff Depth = 2.57"
6.29% Pervious = 701 sf 93.71% Impervious = 10,433 sf

2729-02_Proposed-Conditions

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Type III 24-hr 2-Year Rainfall=3.23"

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Page 6

Summary for Subcatchment P-1: Subcat P-1

Runoff = 0.76 cfs @ 12.07 hrs, Volume= 2,387 cf, Depth= 2.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Type III 24-hr 2-Year Rainfall=3.23"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 9,764 | 98 | Roofs, HSG A |
| 701 | 39 | >75% Grass cover, Good, HSG A |
| 669 | 98 | Paved parking, HSG A |
| 11,134 | 94 | Weighted Average |
| 701 | | 6.29% Pervious Area |
| 10,433 | | 93.71% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|-------------|------------------|------------------|----------------------|-------------------|-----------------------|
| 5.0 | | | | | Direct Entry, Assumed |

2729-02_Proposed-Conditions

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Type III 24-hr 2-Year Rainfall=3.23"

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Page 7

Summary for Reach SP1: Study Point 1

Inflow Area = 11,134 sf, 93.71% Impervious, Inflow Depth = 2.57" for 2-Year event
Inflow = 0.76 cfs @ 12.07 hrs, Volume= 2,387 cf
Outflow = 0.76 cfs @ 12.07 hrs, Volume= 2,387 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3

2729-02_Proposed-Conditions

Prepared by Allen & Major Associates Inc.

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Type III 24-hr 10-Year Rainfall=4.90"

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Page 8

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points x 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment P-1: Subcat P-1

Runoff Area=11,134 sf 93.71% Impervious Runoff Depth=4.21"

Tc=5.0 min CN=94 Runoff=1.22 cfs 3,906 cf

Reach SP1: Study Point 1

Inflow=1.22 cfs 3,906 cf

Outflow=1.22 cfs 3,906 cf

Total Runoff Area = 11,134 sf Runoff Volume = 3,906 cf Average Runoff Depth = 4.21"
6.29% Pervious = 701 sf 93.71% Impervious = 10,433 sf

2729-02_Proposed-Conditions

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Type III 24-hr 10-Year Rainfall=4.90"

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Summary for Subcatchment P-1: Subcat P-1

Runoff = 1.22 cfs @ 12.07 hrs, Volume= 3,906 cf, Depth= 4.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Type III 24-hr 10-Year Rainfall=4.90"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 9,764 | 98 | Roofs, HSG A |
| 701 | 39 | >75% Grass cover, Good, HSG A |
| 669 | 98 | Paved parking, HSG A |
| 11,134 | 94 | Weighted Average |
| 701 | | 6.29% Pervious Area |
| 10,433 | | 93.71% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|-------------|------------------|------------------|----------------------|-------------------|-----------------------|
| 5.0 | | | | | Direct Entry, Assumed |

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Type III 24-hr 10-Year Rainfall=4.90"

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Summary for Reach SP1: Study Point 1

Inflow Area = 11,134 sf, 93.71% Impervious, Inflow Depth = 4.21" for 10-Year event
Inflow = 1.22 cfs @ 12.07 hrs, Volume= 3,906 cf
Outflow = 1.22 cfs @ 12.07 hrs, Volume= 3,906 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3

2729-02_Proposed-Conditions

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Type III 24-hr 100-Year Rainfall=8.89"

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Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points x 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment P-1: Subcat P-1

Runoff Area=11,134 sf 93.71% Impervious Runoff Depth=8.17"

Tc=5.0 min CN=94 Runoff=2.28 cfs 7,578 cf

Reach SP1: Study Point 1

Inflow=2.28 cfs 7,578 cf

Outflow=2.28 cfs 7,578 cf

Total Runoff Area = 11,134 sf Runoff Volume = 7,578 cf Average Runoff Depth = 8.17"
6.29% Pervious = 701 sf 93.71% Impervious = 10,433 sf

2729-02_Proposed-Conditions

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Type III 24-hr 100-Year Rainfall=8.89"

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Summary for Subcatchment P-1: Subcat P-1

Runoff = 2.28 cfs @ 12.07 hrs, Volume= 7,578 cf, Depth= 8.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=8.89"

| Area (sf) | CN | Description |
|-----------|----|-------------------------------|
| 9,764 | 98 | Roofs, HSG A |
| 701 | 39 | >75% Grass cover, Good, HSG A |
| 669 | 98 | Paved parking, HSG A |
| 11,134 | 94 | Weighted Average |
| 701 | | 6.29% Pervious Area |
| 10,433 | | 93.71% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|-------------|------------------|------------------|----------------------|-------------------|-----------------------|
| 5.0 | | | | | Direct Entry, Assumed |

2729-02_Proposed-Conditions

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Type III 24-hr 100-Year Rainfall=8.89"

Printed 3/10/2021

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Summary for Reach SP1: Study Point 1

Inflow Area = 11,134 sf, 93.71% Impervious, Inflow Depth = 8.17" for 100-Year event

Inflow = 2.28 cfs @ 12.07 hrs, Volume= 7,578 cf

Outflow = 2.28 cfs @ 12.07 hrs, Volume= 7,578 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3

Extreme Precipitation Tables

Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

| | |
|------------------|---------------------------------|
| Smoothing | Yes |
| State | Massachusetts |
| Location | |
| Longitude | 71.142 degrees West |
| Latitude | 42.405 degrees North |
| Elevation | 0 feet |
| Date/Time | Fri, 28 Aug 2020 14:10:00 -0400 |

Extreme Precipitation Estimates

| | 5min | 10min | 15min | 30min | 60min | 120min | | 1hr | 2hr | 3hr | 6hr | 12hr | 24hr | 48hr | | 1day | 2day | 4day | 7day | 10day | |
|--------------|------|-------|-------|-------|-------|--------|--------------|------|------|------|------|-------|-------|-------|--------------|-------|-------|-------|-------|-------|--------------|
| 1yr | 0.28 | 0.43 | 0.53 | 0.70 | 0.87 | 1.10 | 1yr | 0.75 | 1.04 | 1.28 | 1.63 | 2.09 | 2.69 | 2.94 | 1yr | 2.38 | 2.83 | 3.29 | 3.98 | 4.65 | 1yr |
| 2yr | 0.35 | 0.54 | 0.67 | 0.88 | 1.11 | 1.40 | 2yr | 0.96 | 1.28 | 1.62 | 2.04 | 2.57 | 3.23 | 3.59 | 2yr | 2.86 | 3.45 | 3.95 | 4.70 | 5.35 | 2yr |
| 5yr | 0.42 | 0.65 | 0.81 | 1.09 | 1.39 | 1.77 | 5yr | 1.20 | 1.61 | 2.06 | 2.60 | 3.26 | 4.09 | 4.56 | 5yr | 3.62 | 4.38 | 5.00 | 5.97 | 6.69 | 5yr |
| 10yr | 0.47 | 0.74 | 0.93 | 1.27 | 1.65 | 2.12 | 10yr | 1.42 | 1.91 | 2.47 | 3.12 | 3.92 | 4.90 | 5.47 | 10yr | 4.33 | 5.26 | 5.99 | 7.15 | 7.92 | 10yr |
| 25yr | 0.56 | 0.89 | 1.13 | 1.56 | 2.06 | 2.67 | 25yr | 1.78 | 2.40 | 3.13 | 3.96 | 4.98 | 6.20 | 6.96 | 25yr | 5.49 | 6.69 | 7.59 | 9.10 | 9.91 | 25yr |
| 50yr | 0.63 | 1.01 | 1.30 | 1.82 | 2.45 | 3.21 | 50yr | 2.12 | 2.86 | 3.77 | 4.78 | 5.98 | 7.43 | 8.36 | 50yr | 6.57 | 8.03 | 9.08 | 10.92 | 11.75 | 50yr |
| 100yr | 0.73 | 1.18 | 1.52 | 2.14 | 2.92 | 3.84 | 100yr | 2.52 | 3.40 | 4.52 | 5.73 | 7.17 | 8.89 | 10.04 | 100yr | 7.87 | 9.65 | 10.88 | 13.10 | 13.94 | 100yr |
| 200yr | 0.83 | 1.36 | 1.76 | 2.52 | 3.47 | 4.60 | 200yr | 2.99 | 4.05 | 5.43 | 6.89 | 8.61 | 10.65 | 12.07 | 200yr | 9.43 | 11.60 | 13.03 | 15.73 | 16.54 | 200yr |
| 500yr | 1.01 | 1.65 | 2.16 | 3.13 | 4.37 | 5.83 | 500yr | 3.77 | 5.11 | 6.90 | 8.77 | 10.97 | 13.54 | 15.40 | 500yr | 11.98 | 14.81 | 16.55 | 20.05 | 20.75 | 500yr |

Lower Confidence Limits

| | 5min | 10min | 15min | 30min | 60min | 120min | | 1hr | 2hr | 3hr | 6hr | 12hr | 24hr | 48hr | | 1day | 2day | 4day | 7day | 10day | |
|-------------|------|-------|-------|-------|-------|--------|-------------|------|------|------|------|------|------|------|-------------|------|------|------|------|-------|-------------|
| 1yr | 0.25 | 0.38 | 0.46 | 0.62 | 0.76 | 0.85 | 1yr | 0.66 | 0.83 | 1.15 | 1.44 | 1.78 | 2.44 | 2.50 | 1yr | 2.16 | 2.41 | 2.93 | 3.53 | 4.05 | 1yr |
| 2yr | 0.33 | 0.51 | 0.63 | 0.85 | 1.05 | 1.26 | 2yr | 0.91 | 1.23 | 1.45 | 1.91 | 2.48 | 3.13 | 3.47 | 2yr | 2.77 | 3.33 | 3.82 | 4.53 | 5.18 | 2yr |
| 5yr | 0.39 | 0.60 | 0.75 | 1.02 | 1.30 | 1.51 | 5yr | 1.12 | 1.47 | 1.73 | 2.24 | 2.89 | 3.77 | 4.18 | 5yr | 3.34 | 4.02 | 4.59 | 5.47 | 6.17 | 5yr |
| 10yr | 0.44 | 0.67 | 0.83 | 1.16 | 1.50 | 1.73 | 10yr | 1.29 | 1.69 | 1.95 | 2.53 | 3.24 | 4.35 | 4.83 | 10yr | 3.85 | 4.65 | 5.27 | 6.29 | 7.01 | 10yr |

| | 5min | 10min | 15min | 30min | 60min | 120min | | 1hr | 2hr | 3hr | 6hr | 12hr | 24hr | 48hr | | 1day | 2day | 4day | 7day | 10day | |
|--------------|------|-------|-------|-------|-------|--------|--------------|------|------|------|------|------|------|-------|--------------|------|-------|-------|-------|-------|--------------|
| 25yr | 0.50 | 0.77 | 0.95 | 1.36 | 1.79 | 2.05 | 25yr | 1.54 | 2.00 | 2.31 | 2.96 | 3.78 | 5.23 | 5.82 | 25yr | 4.63 | 5.60 | 6.31 | 7.52 | 8.29 | 25yr |
| 50yr | 0.56 | 0.85 | 1.06 | 1.52 | 2.05 | 2.35 | 50yr | 1.77 | 2.30 | 2.61 | 3.34 | 4.24 | 5.99 | 6.70 | 50yr | 5.30 | 6.44 | 7.22 | 8.60 | 9.39 | 50yr |
| 100yr | 0.63 | 0.95 | 1.18 | 1.71 | 2.35 | 2.68 | 100yr | 2.03 | 2.62 | 2.96 | 3.62 | 4.77 | 6.89 | 7.70 | 100yr | 6.10 | 7.41 | 8.27 | 9.79 | 10.65 | 100yr |
| 200yr | 0.70 | 1.06 | 1.34 | 1.94 | 2.71 | 3.06 | 200yr | 2.34 | 2.99 | 3.36 | 4.05 | 5.37 | 7.91 | 8.86 | 200yr | 7.00 | 8.52 | 9.46 | 11.12 | 12.03 | 200yr |
| 500yr | 0.82 | 1.23 | 1.58 | 2.29 | 3.26 | 3.65 | 500yr | 2.81 | 3.57 | 3.97 | 4.70 | 6.29 | 9.50 | 10.64 | 500yr | 8.41 | 10.23 | 11.30 | 13.12 | 14.12 | 500yr |

Upper Confidence Limits

| | 5min | 10min | 15min | 30min | 60min | 120min | | 1hr | 2hr | 3hr | 6hr | 12hr | 24hr | 48hr | | 1day | 2day | 4day | 7day | 10day | |
|--------------|------|-------|-------|-------|-------|--------|--------------|------|------|------|-------|-------|-------|-------|--------------|-------|-------|-------|-------|-------|--------------|
| 1yr | 0.31 | 0.48 | 0.58 | 0.79 | 0.97 | 1.13 | 1yr | 0.83 | 1.11 | 1.32 | 1.77 | 2.25 | 2.86 | 3.17 | 1yr | 2.53 | 3.05 | 3.51 | 4.29 | 5.03 | 1yr |
| 2yr | 0.36 | 0.56 | 0.69 | 0.94 | 1.15 | 1.36 | 2yr | 1.00 | 1.33 | 1.57 | 2.08 | 2.68 | 3.35 | 3.74 | 2yr | 2.97 | 3.59 | 4.11 | 4.89 | 5.55 | 2yr |
| 5yr | 0.45 | 0.70 | 0.86 | 1.19 | 1.51 | 1.79 | 5yr | 1.30 | 1.75 | 2.05 | 2.66 | 3.39 | 4.44 | 5.00 | 5yr | 3.93 | 4.81 | 5.43 | 6.48 | 7.21 | 5yr |
| 10yr | 0.55 | 0.84 | 1.05 | 1.46 | 1.89 | 2.20 | 10yr | 1.63 | 2.15 | 2.55 | 3.22 | 4.07 | 5.51 | 6.25 | 10yr | 4.88 | 6.01 | 6.72 | 8.04 | 8.83 | 10yr |
| 25yr | 0.71 | 1.08 | 1.35 | 1.92 | 2.53 | 2.90 | 25yr | 2.19 | 2.83 | 3.39 | 4.16 | 5.17 | 7.32 | 8.42 | 25yr | 6.48 | 8.09 | 8.92 | 10.74 | 11.56 | 25yr |
| 50yr | 0.86 | 1.31 | 1.64 | 2.35 | 3.17 | 3.59 | 50yr | 2.73 | 3.51 | 4.21 | 5.05 | 6.22 | 9.08 | 10.54 | 50yr | 8.04 | 10.14 | 11.04 | 13.40 | 14.18 | 50yr |
| 100yr | 1.06 | 1.60 | 2.00 | 2.89 | 3.96 | 4.42 | 100yr | 3.42 | 4.32 | 5.22 | 6.37 | 7.47 | 11.28 | 13.22 | 100yr | 9.98 | 12.71 | 13.68 | 16.75 | 17.43 | 100yr |
| 200yr | 1.29 | 1.94 | 2.45 | 3.55 | 4.95 | 5.46 | 200yr | 4.27 | 5.34 | 6.49 | 7.78 | 8.96 | 14.02 | 16.60 | 200yr | 12.41 | 15.96 | 16.97 | 20.95 | 21.46 | 200yr |
| 500yr | 1.68 | 2.50 | 3.21 | 4.67 | 6.63 | 7.20 | 500yr | 5.72 | 7.04 | 8.66 | 10.14 | 11.41 | 18.71 | 22.44 | 500yr | 16.56 | 21.58 | 22.57 | 28.20 | 28.29 | 500yr |





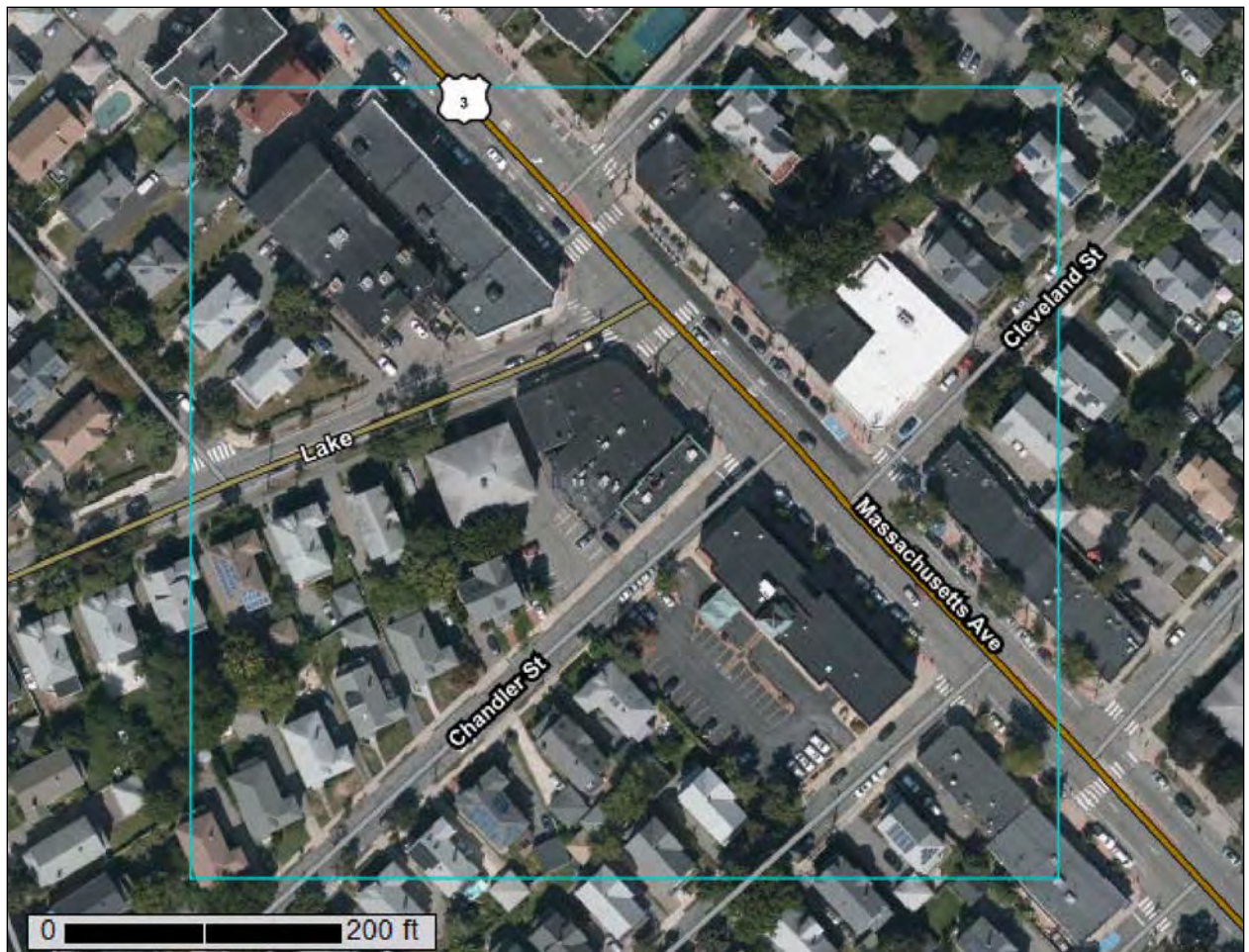
United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for **Middlesex County, Massachusetts**



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons

Soil Map Unit Lines

Soil Map Unit Points

Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

Spoil Area

Stony Spot

Very Stony Spot

Wet Spot

Other

Special Line Features

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:25,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Middlesex County, Massachusetts
Survey Area Data: Version 20, Jun 9, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 11, 2019—Oct 5, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

| Map Unit Symbol | Map Unit Name | Acres in AOI | Percent of AOI |
|------------------------------------|---|--------------|----------------|
| 602 | Urban land | 6.6 | 79.8% |
| 626B | Merrimac-Urban land complex, 0 to 8 percent slopes | 1.7 | 20.2% |
| Totals for Area of Interest | | 8.3 | 100.0% |

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Middlesex County, Massachusetts

602—Urban land

Map Unit Setting

National map unit symbol: 9950
Elevation: 0 to 3,000 feet
Mean annual precipitation: 32 to 50 inches
Mean annual air temperature: 45 to 50 degrees F
Frost-free period: 110 to 200 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land

Setting

Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Excavated and filled land

Minor Components

Rock outcrop

Percent of map unit: 5 percent
Landform: Ledges
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Head slope
Down-slope shape: Concave
Across-slope shape: Concave

Udorthents, wet substratum

Percent of map unit: 5 percent
Hydric soil rating: No

Udorthents, loamy

Percent of map unit: 5 percent
Hydric soil rating: No

626B—Merrimac-Urban land complex, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2tyr9
Elevation: 0 to 820 feet
Mean annual precipitation: 36 to 71 inches

Custom Soil Resource Report

Mean annual air temperature: 39 to 55 degrees F

Frost-free period: 140 to 250 days

Farmland classification: Not prime farmland

Map Unit Composition

Merrimac and similar soils: 45 percent

Urban land: 40 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Merrimac

Setting

Landform: Eskers, moraines, outwash terraces, outwash plains, kames

Landform position (two-dimensional): Backslope, footslope, summit, shoulder

Landform position (three-dimensional): Side slope, crest, riser, tread

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Loamy glaciofluvial deposits derived from granite, schist, and gneiss over sandy and gravelly glaciofluvial deposits derived from granite, schist, and gneiss

Typical profile

Ap - 0 to 10 inches: fine sandy loam

Bw1 - 10 to 22 inches: fine sandy loam

Bw2 - 22 to 26 inches: stratified gravel to gravelly loamy sand

2C - 26 to 65 inches: stratified gravel to very gravelly sand

Properties and qualities

Slope: 0 to 8 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Somewhat excessively drained

Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 2 percent

Maximum salinity: Nonsaline (0.0 to 1.4 mmhos/cm)

Sodium adsorption ratio, maximum: 1.0

Available water capacity: Low (about 4.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: A

Ecological site: F144AY022MA - Dry Outwash

Hydric soil rating: No

Description of Urban Land

Typical profile

M - 0 to 10 inches: cemented material

Properties and qualities

Slope: 0 to 8 percent

Custom Soil Resource Report

Depth to restrictive feature: 0 inches to manufactured layer

Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)

Available water capacity: Very low (about 0.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8

Hydrologic Soil Group: D

Hydric soil rating: Unranked

Minor Components

Windsor

Percent of map unit: 5 percent

Landform: Dunes, outwash terraces, deltas, outwash plains

Landform position (three-dimensional): Tread, riser

Down-slope shape: Convex, linear

Across-slope shape: Convex, linear

Hydric soil rating: No

Sudbury

Percent of map unit: 5 percent

Landform: Outwash plains, terraces, deltas

Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Tread, dip

Down-slope shape: Concave

Across-slope shape: Linear

Hydric soil rating: No

Hinckley

Percent of map unit: 5 percent

Landform: Eskers, kames, deltas, outwash plains

Landform position (two-dimensional): Summit, shoulder, backslope

Landform position (three-dimensional): Nose slope, side slope, crest, head slope, rise

Down-slope shape: Convex

Across-slope shape: Convex, linear

Hydric soil rating: No

Soil Information for All Uses

Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

Soil Physical Properties

Soil Physical Properties are measured or inferred from direct observations in the field or laboratory. Examples of soil physical properties include percent clay, organic matter, saturated hydraulic conductivity, available water capacity, and bulk density.

Saturated Hydraulic Conductivity (Ksat)

Saturated hydraulic conductivity (Ksat) refers to the ease with which pores in a saturated soil transmit water. The estimates are expressed in terms of micrometers per second. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Saturated hydraulic conductivity is considered in the design of soil drainage systems and septic tank absorption fields.

For each soil layer, this attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

The numeric Ksat values have been grouped according to standard Ksat class limits.

Custom Soil Resource Report
Map—Saturated Hydraulic Conductivity (Ksat)



MAP LEGEND

MAP INFORMATION

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

$$= 100.0000$$

☐ Not rated or not available

Soil Rating Lines

3 = 100.0000


Not rated or not available

Soil Rating Points


☒ = 100.0000

Not rated or not available

Water Features

 Streams and Canals

Transportation

Railroads Interstate Highways

US Routes

 Major Roads

Local Roads

Background

Aerial Photography

The soil surveys that comprise your AOI were mapped at 1:25,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Middlesex County, Massachusetts
Survey Area Data: Version 20, Jun 9, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 11, 2019—Oct 5, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Saturated Hydraulic Conductivity (Ksat)

| Map unit symbol | Map unit name | Rating (micrometers per second) | Acres in AOI | Percent of AOI |
|------------------------------------|--|---------------------------------|--------------|----------------|
| 602 | Urban land | | 6.6 | 79.8% |
| 626B | Merrimac-Urban land complex, 0 to 8 percent slopes | 100.0000 | 1.7 | 20.2% |
| Totals for Area of Interest | | | 8.3 | 100.0% |

Rating Options—Saturated Hydraulic Conductivity (Ksat)

Units of Measure: micrometers per second

Aggregation Method: Dominant Component

Component Percent Cutoff: None Specified

Tie-break Rule: Fastest

Interpret Nulls as Zero: No

Layer Options (Horizon Aggregation Method): Depth Range (Weighted Average)

Top Depth: 12

Bottom Depth: 120

Units of Measure: Inches

Soil Qualities and Features

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

Hydrologic Soil Group

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Custom Soil Resource Report

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Custom Soil Resource Report
Map—Hydrologic Soil Group



MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

Soil Rating Lines

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Points

A

A/D

B

B/D

C

C/D

D

Not rated or not available

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:25,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Middlesex County, Massachusetts
Survey Area Data: Version 20, Jun 9, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 11, 2019—Oct 5, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Hydrologic Soil Group

| Map unit symbol | Map unit name | Rating | Acres in AOI | Percent of AOI |
|------------------------------------|--|--------|--------------|----------------|
| 602 | Urban land | | 6.6 | 79.8% |
| 626B | Merrimac-Urban land complex, 0 to 8 percent slopes | A | 1.7 | 20.2% |
| Totals for Area of Interest | | | 8.3 | 100.0% |

Rating Options—Hydrologic Soil Group

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

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Custom Soil Resource Report

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Town of Arlington, Massachusetts

Zoning Warrant Article Public Hearings for 2021 Annual Town Meeting

Summary:

8:00 p.m.

ARTICLE 35

ZONING BYLAW AMENDMENT/ INDUSTRIAL USES

To see if the Town will vote to amend the Zoning Bylaw to update and modernize the Industrial Zoning Districts by amending SECTION 2 DEFINITIONS to define new uses; SECTION 5 DISTRICT REGULATIONS to clarify the applicability of the upper story building step back, to redefine the Industrial Zoning District, to clarify amenity requirements in the Table of Maximum Height and Floor Area Ratio and to add development standards, to include new uses and amend existing uses in the Table of Uses, and to provide additional standards for uses; and SECTION 6 SITE DEVELOPMENT STANDARDS to adjust the parking requirement for light manufacturing, to include standards for the Industrial Zoning Districts, to include standards for the Industrial Zoning Districts; and to adjust the bicycle parking standards for light manufacturing and office, medical or clinic uses; or take any action related thereto.

(Inserted at the request of the Redevelopment Board)

ARTICLE 36

ZONING BYLAW AMENDMENT/ DATE OF ZONING MAP

To see if the Town will vote to amend the Zoning Bylaw to update the date of the Zoning Map of the Town of Arlington, Massachusetts, to November 16, 2020; or take any action related thereto.

(Inserted at the request of the Redevelopment Board)

A brief introductory presentation will be provided for each article

Board members and members of the public will be provided time to ask questions and comment for each article

ATTACHMENTS:

| Type | File Name | Description |
|----------------------|---|---|
| ▣ Reference Material | Agenda_Item_2_-_DPCD_Memo_on_Articles_35_and_36.pdf | DPCD Memo on Articles 35 and 36 |
| ▣ Reference Material | Agenda_Item_2_-_Diagrams_for_Industrial_Zoning.pdf | Diagrams for Industrial Zoning |
| ▣ Reference Material | Agenda_Item_2_-_Article_43_Final_Motion_from_Petitioner.pdf | Article 43 Final Motion from Petitioner |
| ▣ Reference Material | Agenda_Item_2_-_Article_44_Final_Motion_from_Petitioner.pdf | Article 44 Final Motion from Petitioner |



TOWN OF ARLINGTON
DEPARTMENT OF PLANNING and
COMMUNITY DEVELOPMENT

TOWN HALL, 730 MASSACHUSETTS AVENUE
ARLINGTON, MASSACHUSETTS 02476
TELEPHONE 781-316-3090

MEMORANDUM

To: Arlington Redevelopment Board

From: Jennifer Raitt, Director, Planning and Community Development
Erin Zwirko, Assistant Director, Planning and Community Development
Ali Carter, Economic Development Coordinator, Planning and Community Development
Kelly Lynema, Senior Planner, Planning and Community Development

Date: March 31, 2021

RE: Review of Warrant Articles 35 and 36 for 2021 Annual Town Meeting

Staff reviewed the following Warrant Articles to provide the Board with information for further consideration as part of the public hearing and review process. There are two articles with public hearings for the evening of April 5th. This memo provides information about each article being reviewed, including any additional information provided by the petitioner, and additional factors for the Board's consideration.

Article 35

ZONING BYLAW AMENDMENT/INDUSTRIAL USES

To see if the Town will vote to amend the Zoning Bylaw to update and modernize the Industrial Zoning Districts by amending SECTION 2 DEFINITIONS to define new uses; SECTION 5 DISTRICT REGULATIONS to clarify the applicability of the upper story building step back, to redefine the Industrial Zoning District, to clarify amenity requirements in the Table of Maximum Height and Floor Area Ratio and to add development standards, to include new uses and amend existing uses in the Table of Uses, and to provide additional standards for uses; and SECTION 6 SITE DEVELOPMENT STANDARDS to adjust the parking requirement for light manufacturing to include standards for the Industrial Zoning Districts; and to adjust the bicycle parking standards for light manufacturing and office, medical or clinic uses; or take any action related thereto.

(Inserted at the request of the Redevelopment Board)

Background

In 2019, the Town hired RKG Associates and subconsultant, Harriman, to work with the Department of Planning and Community Development (DPCD) and the Zoning Bylaw Working Group (ZBWG) to complete the Economic Analysis of Industrial Districts, a project contemplated in the Master Plan to modernize the industrial zoning districts. The project goals include positioning Arlington to attract new businesses and jobs in emerging growth industries to the Industrial District; and creating opportunities through which Arlington can realize greater revenue with strategic amendments to the Zoning Bylaw and Zoning Map. Tasks completed included reviewing the existing conditions in the Industrial Zoning Districts, completing a market analysis and fiscal impact study, preparing zoning recommendations and amendments, and a pro forma analysis of the zoning amendments.¹ In early 2021, the ARB agreed to advance these amendments to Town Meeting.

¹ Additional project information can be found online: <https://www.arlingtonma.gov/town-governance/boards-and-committees/master-plan-implementation-committee/zoning-bylaw-working-group>

The staff provides the following additional considerations relevant to this article:

- **Acting on the Master Plan** – The Master Plan provided detailed actions relative to the Industrial Zoning Districts: *“Amend the Zoning Bylaw by updating the Industrial District to adapt to current market needs. Currently industrial zoning is focused on manufacturing and assembly uses. It is not very flexible. Modifications to use regulations would be effective in attracting new businesses and jobs in emerging growth industries such as biotechnology, pharmaceuticals, and creative sectors.”*

The Master Plan also provided four very specific recommendations (pages 105-106):

1. Remove the minimum floor area requirement of 2,000 square feet for personal, consumer, and business services. Some manufacturing facilities operate in small spaces, so it should be possible to subdivide available floor area if necessary, to support smaller industrial operations.
2. Allow restaurants in the Industrial District to serve employees of new industry and residents of the region. Patrons of dining establishments are now accustomed to finding restaurants in non-traditional settings. The restaurant industry is growing in the area, including fine dining and “chef’s” restaurants.² Due to the timing of operations, restaurants and manufacturing facilities can often share parking and access routes.
3. Allow small (<2,000 sf) retail space by right or special permit in the Industrial Districts to promote flexibility in redevelopment of existing industrial properties into higher value mixed use properties.
4. Allow residences to be built in the Industrial Districts by special permit as part of mixed-use developments where associated commercial/industrial spaces comprise the majority of usable space. This is particularly helpful in spurring development of live/work studios for artists and creative professionals in visual, graphic, and performing arts and associated trades.

Although these recommendations were made nearly six years ago when the Master Plan was adopted, the proposed zoning amendments address the spirit and intent of these key recommendations in making the Industrial Zoning more flexible to attract new businesses without necessarily supplanting the key industrial uses that current exist today. The ZBWG was especially concerned with the loss of industrial space within the community. As such, the following amendments are proposed in response to the four detailed recommendations above:

1. The proposed amendments do not adjust the floor area for personal, consumer, and businesses services as the only uses allowed from this category in the Industrial District are copy centers and consumer service establishments. However, in response to this specific recommendation and the overall recommendation, “flex uses” are proposed and defined consistent with the recommendations. Flex space is defined as *“a combination of commercial activities under a single commercial entity, such as light manufacturing, office, distribution, research and development, or retail uses.”* There are no limitations placed on how the space is divided and dedicated to each of these activities, allowing the business to adjust as markets and demands change.

² This recommendation is dated by referring to “chef’s” restaurants. Currently, the trend and growing segment in the restaurant industry is fast-casual dining (distinct from fast food restaurants). This is especially true with in-person dining restrictions as a result of the pandemic.

2. Restaurants of less than 2,000 square feet are currently allowed in the Industrial District. The proposed amendments will allow restaurants of 2,000 square feet or more by special permit. In addition, breweries, distilleries, wineries, and the like as well as accessory tasting rooms will be allowed by special permit in the Industrial District.³ By allowing these uses in the Industrial District, the recommendation to bring dining options to areas outside of the main business districts is achieved.
3. In the proposed amendments, retail spaces of less than 3,000 square feet are allowed by right and retail spaces of 3,000 square feet or greater require a special permit. The proposal does not utilize the 2,000 square foot recommendation, but rather maintains consistency among restaurant spaces allowed by right and by special permit in the business districts. Additionally, as explained above, flex uses can include retail spaces in order to give maximum flexibility in how a business uses their space.
4. Finally, the types of residential uses allowed have been expanded. To be clear, residential uses exist in the Industrial District today, particularly on Dudley Street, and single-family and two-family homes are allowed by right currently in the Zoning Bylaw. The proposed amendments include artists' mixed use which is defined as "the use of all or a portion of a building for both habitation and Artistic/Creative Production use, or a combination thereof" clearly acting on the recommendation of the Master Plan. Additionally, multifamily residential use is allowed in mixed-use projects in the Industrial Zoning District with specific guidelines explained in more detail below.

Overall, the recommendations of the Master Plan are achieved by the proposed zoning amendments.

- **Development Standards Support Town Efforts and Advance Recommendations in Recent Plans**
– The standards proposed in the amendment connect recommendations in the Arlington Heights Neighborhood Action Plan, the Arts and Culture Plan, the Mill Brook Corridor Report, and the Net Zero Action Plan with the Town's Industrial Districts. The Arlington Heights Neighborhood Action Plan⁴ recognized the fragmented nature of the Industrial Districts and recommended relaxing the Zoning Bylaw's restrictive use and dimensional guidelines, including for "artistic/creative production". Participants in engagement opportunities noted the desire to redevelop industrial districts into mixed-use industrial and housing.

The development standards for any new construction or additions greater than 50% acknowledge and support other efforts that are important to the Town of Arlington. There is a

³ There are three types of brewery licenses issued by the Commonwealth of Massachusetts: Manufacturer of Wine and Malt Beverages, Pub Brewery, and Farmer Brewery. Arlington's current Alcohol Rules and Orders of the Select Board require that alcohol service must be accompanied by food service. Additionally, a minimum of 19 seats is required for a beer and malt license and a minimum of 50 seats for all alcohol service. Manufacturing breweries, which do not serve alcohol, would not be subject to the Alcohol Rules and Orders and would be allowed in Industrial districts by right with our current zoning bylaw. Pub breweries and farmer breweries would also be allowed under our current zoning bylaw, but they would have to comply with the following provision in the Alcohol Rules and Orders: "Food service must be available in all areas in which alcoholic beverages are served. No more than two alcoholic beverages per person may be served without food. After two alcoholic beverages have been served and consumed, a third such beverage may be served only with the delivery of food. Food must be served on solid, reusable dinnerware with silverware. Paper plates, disposable glasses, or plastic cutlery are not permitted." The requirement for solid reusable dinnerware with silverware is somewhat prohibitive and may need to be revised to allow a farmer brewer to open in Arlington. A Pub Brewery, however, could potentially operate under these rules.

⁴ Arlington Heights Neighborhood Action Plan (2019):
<https://www.arlingtonma.gov/home/showpublisheddocument?id=46654>

significant emphasis placed on incorporating sustainability measures and stormwater management measures, as recommended in the Net Zero Action Plan⁵ and Mill Brook Corridor Report⁶. Acknowledging the fact that the industrial districts are in close proximity to residential districts, the standards also emphasize the need to develop human-scale buildings, pedestrian amenities, and consider building height within the context of the surrounding neighborhood.

The proposed zoning is designed to allow a greater ceiling height for ground floor uses to provide flexibility on how the space is used. The Metropolitan Area Planning Council (MAPC) recently issued a report on e-commerce, “Hidden and in Plain Sight: Impacts of E-Commerce in Massachusetts”,⁷ highlighting the needs of the e-commerce businesses. This report notes the importance of higher ceiling heights for warehousing and distribution, which is also true for breweries and other production facilities. In exchange for the greater height, a property owner must demonstrate that the abutting residential property is not in full shade, that the roof contributes to the sustainability of the project, and that 100% of stormwater is retained on site. These requirements provide protection the residential neighbors near Arlington industrial districts.

The Arts and Culture Action Plan⁸ expressed a clear goal for adjusting policy conditions—including zoning—and administrative procedures to help the arts and culture sector thrive. Among other strategies, the plan recommends the following: review zoning pertaining to commercial and mixed-use zoning districts; broaden definitions for arts and cultural uses; allow the conversion of garages; and permit uses for home offices to ensure artist workspace, artistic/creative production and manufacturing, and artist live/work spaces throughout town. Artists who responded to the Action Plan survey indicated the need for creation of workshop/maker spaces for artisanal fabrication or artistic production, uses that overlap with uses described in the light industrial section of the Zoning Bylaw use table.

- **Business Recruitment** – Due to the low turnover of businesses in the industrial districts either through sale or lease, there has been limited focus in Arlington on industrial business recruitment efforts since 2016. Properties in industrial zones that have turned over since 2016 have typically converted from landscaping, painting, window-cleaning and other home service-related businesses to labs and tech uses. The change that does occur during the infrequent periods of turnover reflects the potential Arlington’s Industrial Districts hold for the new uses proposed by this zoning amendment. The overwhelming majority of businesses that have reached out to DPCD to open businesses in our industrial zones have been breweries, but lack of available space and restrictions on food service with alcohol has stifled the Town’s ability to bring this new type of industry to town. Modernizing the allowed uses and incentivizing redevelopment of properties in industrial zones by continuing to allow a moderate amount of housing development in those areas will help the town expand its commercial tax base while also creating more housing that is generally needed in the entire region.

Additionally, naming the desired uses in the Zoning Bylaw, rather than having desired uses fall in obscure categories, demonstrates that Arlington is open for business. For example, the proposed amendments specifically include co-working space, food production, breweries, maker

⁵ Net Zero Action Plan (2021): <https://www.arlingtonma.gov/home/showpublisheddocument?id=55139>

⁶ Mill Brook Corridor Report (2019): <https://www.arlingtonma.gov/home/showpublisheddocument?id=46513>

⁷ <https://www.mapc.org/wp-content/uploads/2021/02/Feb2021-Ecommerce-Report.pdf>

⁸ Arlington Arts and Culture Action Plan (2017):
<https://www.arlingtonma.gov/home/showpublisheddocument?id=36849>

spaces, and vertical farming. Rather than having to seek additional feedback from town staff, a potential business clearly sees that the use is allowed and desired.

- **Residential Use in the Industrial Districts** – As noted above, single-family and two-family residential uses are allowed by right in the Industrial District today, and residential uses with greater density also exist in the Industrial District. The Master Plan recommendation described above indicated that residential uses should be allowed in mixed-use projects where the associated commercial/industrial space comprises the majority of the usable space. Currently, the Zoning Bylaw strictly prohibits residential uses in mixed-use projects.

The proposed amendments allow residential use in mixed-use projects, but the residential uses cannot occupy more than twice the floor area of the ground floor light industrial use. In addition, the standards do not allow residential uses to be the ground floor use; only industrial or commercial uses. Please see the attached illustrative graphic. Relating the floor area of residential uses to the floor area of light industrial use prevents residential uses from supplanting the industrial uses, a common concern heard throughout the project. This does not apply to Artist Mixed-Use Projects, which are specifically defined to provide for both habitation and artistic/creative production use and requires a special permit.

At the ARB meeting on December 21, 2020, representatives from RKG Associates and Harriman made a presentation that included a pro forma analysis.⁹ The proposed zoning amendments allow a variety of new uses but also require new development and redevelopment to meet certain standards. These standards recognize the proximity of the Industrial Districts to Mill Brook and residential neighborhoods. RKG completed the pro forma analysis at the request of the ZBWG and DPCD to determine whether the proposed amendments are realistic requirements to set on property owners and developers. RKG found that a new development of industrial and commercial uses alone may not pencil out for a property owner's investment to develop or redevelop a site. When including residential uses the pro forma does show profitability.

As a follow up, RKG completed an analysis of whether a 50/50 split of residential and industrial uses would be realistic considering the requirements of the proposed zoning. They found that the size of the parcel becomes the main driver of whether there would be a return on the investment. For example, the large "Gold's Gym" site in the Heights would be profitable, while smaller parcels on Ryder Street would likely not provide a return if a 50/50 split were required. As more residential space is allowed, a property owner may see a return on their investment.

DPCD notes that in the six years since the Master Plan was adopted 2015, the residential real estate market has changed dramatically while the commercial real estate market has remained relatively level. Since the first quarter of 2017, no industrial properties have been listed for sale in Arlington.¹⁰ With so much owner-occupied property and so little turnover in our industrial districts either through sale or lease, there has been little incentive for property owners to consider redeveloping their property to create opportunities to bring new and modern light industrial, research and development, manufacturing, and the creative economy to the Industrial Districts. Allowing residential in mixed-use projects supports the continued viability of

⁹ The presentation and the recording of the ARB's December 21, 2020, meeting can be viewed on the ZBWG page: <https://www.arlingtonma.gov/town-governance/boards-and-committees/master-plan-implementation-committee/zoning-bylaw-working-group>

¹⁰ Not all industrial properties in Arlington are located in the Industrial Zoning Districts, and not all property in the Industrial Zoning Districts are used for industrial purposes.

industrial uses at grade. By allowing residential, with the specific guideposts included in the proposed amendments, property owners may consider redeveloping their property and creating opportunities for new and desirable uses to move to Arlington.

- **Warehousing and Distribution** –During the pandemic, households have increasingly placed orders online for home delivery in an effort to minimize their contact outside of their home. Many industry experts believe that the consumer shift to online grocery delivery and pickup will continue even beyond the COVID-19 pandemic.¹¹ MAPC’s recent report on e-commerce highlighted the needs of the e-commerce businesses. MAPC notes that as transportation is the greatest cost as part of e-commerce logistics, the siting of smaller warehouse and distribution centers closer to consumers saves on both delivery times and expenses. As a result, the demand for industrial real estate, particularly in urban areas is high, due to the desire to provide same-day or next-day delivery of goods. At the same time, there is significant demand to site large e-commerce warehouse and distribution centers outside of urban areas. Primarily located in industrially-zoned areas, these facilities require both substantial amounts of land and easy access to the regional highway and rail network.

It is important to note that large e-commerce businesses are likely to not find Arlington as a desirable location. Arlington does not have the access or the land necessary for distribution, and the increased traffic due to deliveries would likely be incompatible with the fact that the Industrial Zoning Districts are often nestled in residential neighborhoods. In fact, in reviewing the MAPC report, Amazon’s largest warehouse in operation in Massachusetts is over 1 million square feet and their largest planned warehouse is 3.8 million square feet. Amazon’s smallest operating facility is a grocery distribution center with 20,400 square feet.

The largest industrially-zoned properties in Arlington are the Department of Public Works Yard and 30 Park Avenue (aka the Gold’s Gym site). Both are nearly 4.5 acres, yet only the privately owned site is a realistic option for redevelopment. Of the parcels zoned Industrial, the median parcel size is 9,591 square feet. When controlling for parcels that are not improved as commercial or industrial uses, the parcel size is 6,133 square feet.¹² These small parcel sizes may support only the smallest sized warehouse, should an e-commerce business find Arlington as a desirable location, perhaps for hyper local delivery as is the example in the MAPC report on e-commerce. The proposed zoning allows flexible uses and the greater ceiling heights ensures that Arlington can position itself to capture local warehousing and distribution.

Amend SECTION 2:

Definitions associated with Art/Cultural Uses

Artists' Mixed-use: The use of all or a portion of a building for both habitation and Artistic/Creative Production use, or a combination thereof. Refer to Section 5.9.2.

Co-working Space: A building or portion thereof consisting of a shared office environment, which contains desks or other workspaces and facilities, including but not limited to, dedicated workstations, office suites, meeting rooms, event space, resource libraries, and business or administrative support

¹¹ <https://www.mckinsey.com/business-functions/marketing-and-sales/our-insights/survey-us-consumer-sentiment-during-the-coronavirus-crisis>

¹² Arlington Assessor Database and Town of Arlington Geographic Information Systems, March, 2021

services, and is used by a recognized membership who share the site to interact and collaborate with each other. Refer to Section 5.9.2.

Maker Space: A building or portion thereof used for the on-site production of parts or finished products by individual or shared use of hand-tools, mechanical tools, and electronic tools. Maker Spaces may include space for design and prototyping of new materials, fabrication methodologies, and products, as well as space for packaging, incidental storage, sales, and distribution of such projects. Typical uses include but are not limited to: electronic goods; printmaking; leather products; jewelry and clothing/apparel; metal work; furniture; woodworking and cabinet shops; glass or ceramic production; and paper design and production. Refer to Section 5.9.2.

Work Only Artist Studio: A space used by an artist for the creation of any visual art or craft, including but not limited to, painting, drawing, photography, sculpture, and pottery; of written works of fiction or nonfiction; or any performing art, whether for live or recorded performance, including music, dance, and theater. Retail sales of art produced on-site and arts instruction by the artist are allowable accessory uses. Refer to Section 5.9.2.

Definitions associated with Light Manufacturing

Brewery, Distillery, and Winery: A small, independently owned facility in which alcoholic beverages produced on-site are bottled and sold, typically in conjunction with a bar, tavern, or restaurant use. This includes the substantial equivalent to breweries, distilleries, and wineries. Refer to Section 5.9.2.

Flex Space: A combination of commercial activities under a single commercial entity, such as light manufacturing, office, distribution, research and development, or retail uses. Refer to Section 5.9.2.

Food Production Facility: Food and beverage manufacturing plants that transform raw materials into products for intermediate or final consumption by applying labor, machinery, energy, and scientific knowledge. Food production facilities do not include marijuana establishments or medical marijuana treatment centers. Refer to Section 5.9.2.

Self-Service Storage Facility: A building consisting of small, individual self-contained units that are leased or owned for the storage of business and household goods or contractor supplies, but precluding individual storage units that have at grade and direct vehicular access.

Vertical Farming: A building used for the practice of producing food on vertically inclined surfaces in vertically stacked layers. Vertical farming does not include marijuana establishments or medical marijuana treatment centers. Refer to Section 5.9.2.

Amend SECTION 5.3.7.:

D. In Industrial Districts, screening along the Minuteman Bikeway shall be limited to a vegetative screen, guardrail, and/or low fence under 4 feet in height only. Such screening shall either have gaps or vary in height to provide lines of sight from the Minuteman Bikeway to the adjoining property to promote safety for pedestrians and bicyclists. Pedestrian amenities such as seating, bins for recycling and refuse collection, and appropriate supplementary lighting shall be integrated within the landscaped area of the buffer.

Amend SECTION 5.3.17.:

For buildings more than three stories in height, an additional 7.5-foot step-back (upper story building setback) shall be provided beginning at the third story level or 30 feet above grade, whichever is less. The upper story step-back shall be provided along all building elevations with street frontage, excluding alleys. This requirement shall not apply to buildings in the Industrial District.

Amend SECTION 5.6.1.B.:

- B. The Industrial District in the Mill Brook Valley allows uses requiring the manufacture, assembly, processing, or handling of materials and requires additional measure to prevent traffic, noise, appearance, odor, or hazards from becoming disruptive to residential and other business uses. In this district, the Town ~~discourages residential uses, retail business uses, or uses which would otherwise interfere with the intent of this Bylaw. Mixed use development is allowed without residential space~~ allows residential uses, retail business uses, and restaurants if they are accessory to an industrial use to support the continuation of industrial uses in Arlington. Mixed-use development is allowed with all uses.

Amend SECTION 5.6.2.A.:

All Other District Maximum Height and Floor Area Ratio

| | Requirement | | |
|-----|-----------------------|----------------------------------|--------------------------------|
| | Maximum Height (ft.) | Maximum height (stories) | Maximum Floor Area Ratio (FAR) |
| MU | 70 ^{A,B} | ----- | 1.00 |
| I | 52 ^C 39 | 4 ^C 3 ^C | 1.50 |
| T | 35 | 2 ½ | 0.35 |
| PUD | 85 | ----- ^D | 0.80 |
| OS | ----- ^E | ----- ^E | ----- |

Notes:

^A The maximum height in feet of any building or buildings may be modified per Section 3.4 of this Bylaw, provided that the total roof area exceeding either maximum height shall be equal to an equal roof area, within the part of the project to which the same height limit applies, that is less than the maximum height so that the total of the products of the horizontal roof area of all roofs times their respective heights shall not exceed the product of the horizontal area of the total roof times the applicable maximum height permitted in the district, and provided further that the height of any roof shall not exceed the applicable maximum height permitted in the district by more than 12 feet.

^B See Section 5.3.17.

^C ~~Upper story building setbacks required on structures with more than three stories. See Section 5.3.24. Subject to amenity requirements in Section 5.6.2.D(7).~~

^D In a mixed-use building, residential uses shall be limited to five stories.

^E Accessory buildings in the OS district shall be located on the property so as not to detract from the primary goal of the open space use.

Amend SECTION 5.6.2.:

A. Development Standards.

In the Industrial District, the following requirements apply to all new development or additions over 50% of the existing footprint:

(1) Renewable Energy Installations

- The Redevelopment Board may, by special permit, allow adjustments to the height and setbacks in order to accommodate the installation of solar photovoltaic, solar thermal, living and other eco-roofs, energy storage, and air-source heat pump equipment. Such adjustments shall not create a significant detriment to abutters in terms of noise or shadow and must be appropriately integrated into the architecture of the building and the layout of the site, consistent with the other requirements of this section.
- All new commercial and mixed-use buildings shall be solar ready.

(2) Yards

- Where feasible, the principal façade of the principal building on the site shall be no more than 10 feet from the front lot line.
- The use of rain gardens, bioswales, and wetlands restoration to control runoff and manage stormwater on-site within setbacks is strongly encouraged. Such systems shall be integrated with the surface water drainage systems in Section 3.4.4.E. See Section 6.1.11.F(3) for relationship to parking areas.
- Fences greater than 4 feet tall within the abutting setback to the Minuteman Bikeway shall be prohibited. See Section 5.3.7.D. for additional requirements.

(3) Transparency and Access

- The required minimum transparency of the ground floor principal façade visible from a public right-of-way is 50% of the area measured between 2 and 8 feet in height from the level of the finished sidewalk.
- All façades visible from a public right-of-way shall be given equal treatment in terms of architectural detailing. No blank façades are permitted. Façades shall be articulated every 50 to 80 feet.
- Each building shall have a clearly defined primary entrance that faces the principal street. A corner door may be used for a building that faces two public streets.
- The primary building entry shall be connected by an accessible surface to the public sidewalk.

(4) Lighting

- All luminaires shall be consistent with the requirements of Article 14 Regulation of Outdoor Lighting of the Town of Arlington's Bylaws, unless noted below.

- All site and building lighting shall be downcast (75-degree cutoff or fully shielded). Lighting for walkways or parking lots shall be adequately spaced to create even light distribution.
 - Site luminaires shall minimize overspill onto an adjacent property and glare when viewed from the public right-of-way or abutting properties.
- (5) Pedestrian Amenities. All new development or additions over 50% of the existing footprint shall provide the following:
- Either one of the following:
 - A shade tree every 35 linear feet of lot frontage along a public right of way; or
 - Irrigated planter boxes every 15 linear feet of frontage along a public right of way.
 - And one of the following; however, for lots that abut the Minuteman Bikeway, this amenity should be located within the yard adjacent to the Bikeway:
 - One (1) piece of interactive art accessible to the public;
 - One (1) artful rainwater collection system, an above ground stormwater management system that includes artistic elements to collect and divert stormwater;
 - Two (2) benches or similar permanent seating accessible to the public; or
 - Historic marker indicating important historic event or former uses on the site.
- (6) Implement a temporary erosion and sedimentation control plan for all new construction activities associated with the project.
- (7) Exceptions to Maximum Height Regulations in the Industrial District
- For new development or additions that would otherwise be subject to Section 5.3.19, a maximum height of 52 feet or four stories is allowed subject to the following development standards:
- Demonstrate that new buildings or additions shall allow for full sun at least half the time or 50% sun coverage all the time on March 21, June 21, September 21, and December 21 on the lots within the required residential buffer as defined in Section 5.3.19.
 - Provide one (1) of the following sustainable roof infrastructure components:
 - Install a vegetated or green roof over 50% of the roof area.
 - Use diffuse, highly reflective materials on 75% of the roof area.

- Install solar energy panels tied to the electrical system of the building. For new commercial or mixed-use building, provide solar PV and/or solar thermal on a minimum of 50 percent of the roof area.
- Provide 100% highly reflective concrete topping.
- Install a blue roof over 50% of the roof area to provide initial temporary water storage and then gradual release of stored water.
- Retain and treat 100% of stormwater on site.

Amend SECTION 5.6.3.:

| Class of Use | I |
|--|-----------|
| Residential | |
| <u>Artists' Mixed-use</u> | <u>SP</u> |
| Agricultural | |
| <u>Vertical Farming</u> | <u>SP</u> |
| Commercial & Storage Uses | |
| <u>Self-service storage facility</u> | <u>SP</u> |
| Eating & Drinking Establishments | |
| Restaurant | |
| => 2,000 sq. ft., and any restaurant that is principal use on lot of 10,000 sq. ft. or more | <u>SP</u> |
| Retail | |
| Retail, general, >3,000 sq. ft. of gross floor area | <u>SP</u> |
| Retail, local; <3,000 sq. ft. or gross floor area | <u>Y</u> |
| Office Uses | |
| Including but not limited to professional, business, or medical or dental offices. | |
| Less than 3,000 <u>5,000</u> sq. ft. gross floor area per building | Y |
| 3,000 <u>5,000</u> sq. ft. or more gross floor area per building | SP |
| Office, display or sales space providing not more than 25% of floor space is used for assembling, packaging and storing commodities; percentage of space used for office, assembling, packaging and storing commodities is flexible. | Y |
| <u>Co-working Space</u> | |
| <u>Less than 5,000 sq. ft. gross floor area per building</u> | <u>Y</u> |
| <u>5,000 sq. ft. or more gross floor area per building</u> | <u>SP</u> |

| Class of Use | I |
|--|-----------|
| Wholesale Business & Storage | |
| Office, display or sales space of a wholesale, jobbing, or distributing establishment provided that no more than 25% of floor space is used for assembling, packaging and storing of commodities; <u>percentage of space used for office, assembling, packaging and storing commodities is flexible.</u> | Y |
| Research, Laboratory, Related Uses | |
| Offices with data processing facilities or laboratories and testing facilities, which may include minor assembly or fabrication activities limited to 25% of the floor area. | SP |
| Light Industry | |
| <u>Brewery, distillery, winery</u> | <u>SP</u> |
| <u>Flex space</u> | <u>SP</u> |
| <u>Food production</u> | <u>SP</u> |
| Other Principal Uses | |
| <u>Work-only Artist Studio</u> | <u>Y</u> |
| <u>Maker Space</u> | <u>Y</u> |
| Accessory Uses | |
| <u>Tasting, accessory to a commercial brewery, winery, distillery</u> | <u>Y</u> |
| Notes | |
| <p>^A Six or more units on one or more contiguous lots requires a special permit.</p> <p>^B But permitted by right if accessory to a use exempt under G.L. c. 40A, § 3. See Section 3.5.</p> <p>^C If customers or pupils do not come to the house for business or instruction.</p> <p>^D Mixed-use in Industrial Zones shall not include residential uses. <u>Mixed use in Industrial Zones may include residential uses, subject to the requirements of Section 5.9.2.I.</u></p> | |

Amend SECTION 5.9:

5.9.2 Uses in the Industrial Districts.

- A. Artists' Mixed-Use. Any portion of a building devoted to such use shall be subject to the following conditions:
- (1) Occupied by persons certified as artists pursuant to the Arlington Commission for Arts and Culture (ACAC) Artist Certification Process,
 - (2) Designed in accordance with ACAC standards and guidelines for artists' mixed-use space, and
 - (3) Subject to an agreement for artists' housing as part of the conditions of a special permit granted by the Arlington Redevelopment Board (ARB).

- B. Work Only Artist Studio. An artist studio shall not be used by more than two artists, except for occasional and time-limited collaborations with other artists.
- C. Co-working Space. Rules for membership and participation in the co-working space shall be explicit, transparent, and available to the public. Co-working spaces may host classes or networking events which are open either to the public or to current and prospective members.
- D. Maker Space. Maker Spaces may host classes or networking events which are open to the public. Maker Spaces may also include a membership component.
- E. Brewery, distillery, and winery, including functional equivalents. Tap room hours of operation open to the public shall not represent disturbance to adjacent residential uses and such hours must follow the Commonwealth of Massachusetts requirements for licensing and operations.
- F. Flex Space. The firm using the Flex Space must meet the following criteria:
- (1) All of the uses on the site must be specifically allowed as principal uses within the Arlington Industrial Zone.
 - (2) Changes in products, services, and square footage of uses will not require further approval for use if the Building Inspector determines the uses and property are otherwise in conformance with the Bylaws.
 - (3) The floor area of each use is unrestricted except for uses where a limitation on size or density is present. In this case, the floor area of such use shall be at or below the given limitation.
- G. Food production facility. Food and beverage facilities shall:
- (1) Properly store equipment and remove litter and waste within the immediate vicinity of the plant buildings or structures as to avoid becoming a breeding place, or harborage for pests.
 - (2) Constantly check for pests and pest infestation
 - (3) Locate and operate fans and other air-blowing equipment in a manner that minimizes noise levels and the potential for contaminating the building and its surroundings to avoid health hazards to the public.
 - (4) Not locate vents on the façade adjacent to sidewalks or the Minuteman Bikeway to avoid exposure to the public.
- H. Vertical Farming. This use shall be approved by a special permit from the Redevelopment Board to make sure operations such as lighting, gases, humidity, and temperature do not affect the surrounding microclimate and the well-being of adjacent uses.
- I. Mixed-Use Building in the Industrial District. Residential uses may be a component of a mixed-use development. Mixed-use development may be integrated vertically, within a single building, or horizontally, in multiple buildings on the same site. The ground floor use of the principal building on the site must be industrial or commercial. Residential use must be no more than twice the gross floor area of the principal ground floor use, which must include Light Industrial.

Amend SECTION 6.1.4.:

| Use | Minimum Number of Spaces |
|----------------------|--|
| Manufacturing, Light | 1 space per 600 1,000 sq. ft. of gross floor area or 0.75 spaces per employee of the combined employment of the two largest successive shifts, whichever is greater |

Amend SECTION 6.1.10.:

F. Parking in Industrial Districts. In an Industrial District, all parking and loading areas shall be subject to the following requirements in addition to the applicable requirements of Section 6.1.10:

- (1) The parking area shall be located to the rear or side of the primary building. No parking shall be permitted in the front yard nor shall any driveways directly in front of a structure be permitted without a finding by the Zoning Board of Appeals or Arlington Redevelopment Board, as applicable, that the parking or driveway is necessary and convenient to the public interest.
- (2) Any loading and/or delivery access shall be located at the rear of the building or in an alley between buildings on the same lot. In the case of demonstrated hardship, an alternative may be approved by the Arlington Redevelopment Board.

Amend SECTION 6.1.11.:

F. Parking in Industrial Districts. In an Industrial District, all parking and loading areas shall be subject to the following requirements in addition to the applicable requirements of Section 6.1.11.:

- (1) Parking spaces above the minimum number required by Section 6.1.4. shall be surfaced with a permanent pervious material or binder.
- (2) For parking areas not covered with pervious surfaces, one of the following options must be chosen to reduce the heat given off by the paved surface of the parking area:
 - Install a highly reflective surface using one of the following options:
 - Roller-compacted concrete
 - Concrete over asphalt (white topping and ultra-thin white topping)
 - Use of light-colored aggregate in asphalt.
 - Asphalt, concrete and pavers with modified colors
 - Increase shade of the impervious pavement to a minimum of 50% of the surface by one or both of the following methods:
 - Installing trees within the landscaped areas required by Section 6.1.11.D (6) in the Town of Arlington bylaws.

- Solar panels over parking spaces allowing cars to park underneath.
- (3) Rain gardens, bioswales, and wetlands restoration, as appropriate to control runoff and manage stormwater on-site, are strongly encouraged and should act as a transition between parking and open space.
- (4) Electric vehicle charging stations are strongly encouraged.
- (5) All parking surfaces shall comply with requirements of subparagraph E of Section 3.4.4. Environmental Design Review Standards.

Amend SECTION 6.1.12.D:

| Use | Minimum Number of Long-Term Bicycle Parking Spaces | Minimum Number of Short-Term Bicycle Parking Spaces |
|-----------------------------------|---|---|
| Business or Industrial Use | | |
| Manufacturing, Light | 0.80 spaces <u>1 space per 1,000 sq. ft. of gross floor area or 0.75 spaces per employee of the combined employment of the two largest successive shifts, whichever is greater</u> | 0.60 spaces per 1,000 sq. ft. of gross floor area |
| Office, medical or clinic | 0.30 spaces <u>1 space per 1,000 sq. ft. of gross floor area</u> | 0.50 spaces per 1,000 sq. ft. of gross floor area |

Article 36

ZONING BYLAW AMENDMENT/ZONING MAP ADOPTION

To see if the Town will vote to amend the Zoning Bylaw to update the date of the Zoning Map of the Town of Arlington, Massachusetts, to November 16, 2020; or take any action related thereto.

(Inserted at the request of the Redevelopment Board)

Background

The November 2020 Town Meeting adopted a zoning map change that rezoned a portion of the Department of Public Works Yard from R1 to Industrial. It was noted that the date of the zoning map needed to be updated in Section 4.2 of the Zoning Bylaw as a result.

Amend SECTION 4.2:

4.2 ZONING MAP

Zoning districts are shown on a map entitled "Zoning Map of the Town of Arlington, MA" and dated ~~May 19, 2015~~ November 16, 2020 (the Zoning Map) on file in the Office of the Town Clerk and the Department of Planning and Community Development. The district boundaries shown on the Zoning Map, including an overlay map entitled "Wetland and Floodplain Overlay" are part of this bylaw. The Zoning Map may include geographical features, streets, notations, and such other information to keep the map current and to facilitate orientation.

5.9.2.I Mixed-Use Building in the Industrial District

B. Residential uses must be a component of a mixed-use development. Mixed-use development may be integrated vertically, within a single building, or horizontally, in multiple buildings on the same site. The ground floor use of the principal building on the site must be industrial or commercial. Residential use must be no more than twice the gross floor area of the principal ground floor use, which must include Light Industrial.

Single building on a site

| | | | | |
|--|---|--|--|--|
| <p>Example 1</p> <div><div>Residential</div><div>Office</div><div>Light Industrial</div><div>LOBBY</div><div>LOBBY</div></div> <p>ALLOWED</p> <p>The residential square footage is not more than twice the square footage of the ground floor use (Light Industrial).</p> | <p>Example 2</p> <div><div>Residential</div><div>Residential</div><div>Light Industrial</div><div>LOBBY</div></div> <p>ALLOWED</p> <p>The residential square footage is not more than twice the square footage of the ground floor use (Light Industrial).</p> | <p>Example 3</p> <div><div>Residential</div><div>Residential</div><div>Light Industrial</div><div>LOBBY</div></div> <p>NOT ALLOWED</p> <p>The residential square footage is more than twice the square foot-age of the ground floor use (Light Industrial).</p> | <p>Example 4</p> <div><div>Residential</div><div>Residential</div><div>Office</div><div>LOBBY</div></div> <p>NOT ALLOWED</p> <p>The ground floor does not include Light Industrial.</p> | <p>Example 5</p> <div><div>Residential</div><div>Residential</div><div>Light Industrial</div><div>Office</div><div>LOBBY</div></div> <p>ALLOWED</p> <p>The ground floor does include Light Industrial and the residential use is not more than twice the area of the ground floor use.</p> |
|--|---|--|--|--|

Two buildings on a site

| | |
|--|---|
| <p>Example 1</p> <div><div>Light Industrial</div><div>Residential</div><div>Residential</div></div> <p>ALLOWED</p> <p>The residential square footage is not more than twice the square footage of the ground floor of the principal building (Light Industrial).</p> | <p>Example 2</p> <div><div>Light Industrial</div><div>Residential</div><div>Residential</div><div>Residential</div></div> <p>NOT ALLOWED</p> <p>The residential square footage is more than twice the square footage of the ground floor of the principal building (Light Industrial).</p> |
| <p>Example 3</p> <div><div>Office</div><div>Light Industrial</div><div>Office</div><div>Office</div><div>Residential</div><div>Residential</div></div> <p>ALLOWED</p> <p>The residential square footage is not more than twice the square footage of the ground floor of the principal building which does include Light Industrial.</p> | <p>Example 4</p> <div><div>Office</div><div>Residential</div><div>Residential</div></div> <p>NOT ALLOWED</p> <p>The ground floor of the principal building does not include Light Industrial.</p> |

Accessory Dwelling Units – Main Motion

The purpose of this Motion includes promoting the use of accessory dwelling units as a means of providing Arlington property owners with an opportunity to age in place, to create independent living space for elderly, disabled or other family or household members, to downsize or to earn supplemental income from investing in their properties. Accessory dwelling units will help Arlington residents conserve and grow their own property values; encourage housing for persons of all income levels and ages; and encourage an orderly expansion of the tax base without detracting from the existing character of the affected neighborhoods.

1. Amend Section 2 (Definitions) to add the following definition to the sub-section on “Definitions Associated with Dwelling”:

Accessory Dwelling Unit: a self-contained housing unit, inclusive of sleeping, cooking and sanitary facilities on the same lot as a principal dwelling.

2. Amend Section 5.4.3 (Use Regulations for Residential Districts) to add the accessory dwelling unit use to the table of uses:

| Class of Use | R0 | R1 | R2 | R3 | R4 | R5 | R6 | R7 |
|-------------------------|----|----|----|----|----|----|----|----|
| Accessory Uses | | | | | | | | |
| Accessory Dwelling Unit | Y | Y | Y | Y | Y | Y | Y | Y |

3. Amend Section 5.5.3 (Use Regulations for Business Districts) to add the accessory dwelling unit use to the table of uses:

| Class of Use | B1 | B2 | B2A | B3 | B4 | B5 |
|-------------------------|----|----|-----|----|----|----|
| Accessory Uses | | | | | | |
| Accessory Dwelling Unit | Y | Y | Y | Y | Y | Y |

4. Add a new section, **Section 5.9.2 (Accessory Dwelling Units)**, containing standards for accessory dwelling units:

5.9.2 Accessory Dwelling Units

A, Purpose. The purpose of this Section 5.9.2 includes:

- (1) Promoting the use of accessory dwelling units as a means of providing Arlington property owners with an opportunity to age in place, to create independent living space for elderly, disabled or other family or household members, to downsize or to earn supplemental income from investing in their properties.
- (2) Helping Arlington residents to conserve and grow their own property values.

- (3) Encouraging housing for persons of all income levels and ages.
- (4) Encouraging an orderly expansion of the tax base without detracting from the existing character of the affected neighborhoods.

B. Requirements

- (1) In any Residential District or Business District, an accessory dwelling unit is permitted as an accessory use to any single-family dwelling, two-family dwelling, or duplex dwelling, if all of the following conditions are met:
 - An accessory dwelling unit shall be not larger in floor area than one-half the floor area of the principal dwelling or 900 square feet, whichever is smaller. For the avoidance of doubt, where an accessory dwelling unit is created by converting a portion of an existing principal dwelling to an accessory dwelling unit, the floor area of the resulting accessory dwelling unit shall be measured relative to the floor area of the resulting principal dwelling (as affected by or in connection with the conversion).
 - Any alteration causing an expansion of or addition to a building in connection with an accessory dwelling unit shall be subject to the provisions of Section 5.4.2B(6) if and to the extent Section 5.4.2B(6) is otherwise applicable to such alteration or addition.
 - An accessory dwelling unit shall maintain a separate entrance, either directly from the outside or through an entry hall or corridor shared with the principal dwelling, sufficient to meet the requirements of the State Building Code for safe egress.
 - No more than one (1) accessory dwelling unit is allowed per principal dwelling unit.
 - An accessory dwelling unit may be located in (i) the same building as the principal dwelling unit or as an expansion to such building; (ii) a building that is attached to the principal dwelling unit; or (iii) an accessory building, which accessory building shall not constitute a principal or main building by the incorporation of the accessory dwelling unit, provided that if such accessory building is located within 6 feet of a lot line then such accessory dwelling unit shall be allowed only if the Board of Appeals, acting pursuant to Section 3.3, grants a special permit upon its finding that the creation of such accessory dwelling unit is not substantially more detrimental to the neighborhood than the use of such accessory building as a private garage or other allowed use.

- An accessory dwelling unit shall not be used as a short-term rental, in accordance with Title V, Article 18, Section 3 of the By-Laws of the Town of Arlington.
 - An accessory dwelling unit shall be subject to all applicable requirements of the State Building Code and State Fire Code (including any such requirements, if and as applicable, which prohibit openings, including windows, in exterior walls of dwellings located within a certain distance from the property line).
- (2) The creation or addition of an accessory dwelling unit shall not change the zoning classification of the property in question and shall not affect any zoning relief previously obtained for such property. By way of example only (and without limitation), a single-family dwelling having an accessory dwelling unit shall continue to be classified as a single-family dwelling for single-family use under the Zoning Bylaw; a two-family dwelling having an accessory dwelling unit shall continue to be classified as a two-family dwelling for two-family use under the Zoning Bylaw; and a duplex having an accessory dwelling unit shall continue to be classified as a duplex dwelling for duplex use under the Zoning Bylaw.
 - (3) No off-street parking spaces are required in connection with the creation or addition of an accessory dwelling unit.
 - (4) An accessory dwelling unit shall not be owned separately from the principal dwelling unit with which such accessory dwelling unit is associated.

C. Administration

- (1) Prior to the issuance of a building permit for an accessory dwelling unit, the owner must deliver an affidavit to the building inspector stating that the owner or a family member of the owner will reside in either the principal dwelling unit or the accessory dwelling unit upon completion of the accessory dwelling unit.
- (2) The creation or addition of an accessory dwelling unit to a principal dwelling unit shall not be subject to the foregoing paragraph 5.9.2.C(1) if the principal dwelling unit and accessory dwelling unit are owned by a non-profit or governmental entity and the accessory dwelling unit is restricted as an affordable unit.
- (3) This Section 5.9.2 shall be effective as of the date on which it is enacted at Town Meeting in accordance with applicable law, except for clause (iii) of Section 5.9.2.B(1), fifth bullet, which clause (iii) shall be effective as of the date occurring six (6) months after the date on which this Section 5.9.2 is enacted at Town Meeting.

- (4) In the event of any conflict or inconsistency between the provisions of this Section 5.9.2 or Section 8.1.3.E, on the one hand, and any other provisions of this Bylaw, the provisions of this Section 5.9.2 and Section 8.1.3.E shall govern and control.

5. Add a new paragraph E to **Section 8.1.3 (Nonconforming Single-Family or Two-Family Dwellings)**:

- E. The creation or addition of an accessory dwelling unit within an existing single-family dwelling, two-family dwelling, or duplex dwelling, or within an existing accessory building on the same lot as any such dwelling, does not increase or affect the nonconforming nature of said existing dwelling or accessory building, and shall not cause such dwelling or accessory building to become non-conforming or result in any additional dimensional requirements with respect to such dwelling or accessory building, provided that such creation or addition of an accessory dwelling unit neither expands the footprint nor the height of said dwelling or accessory building, in each case except (i) for changes necessary to provide for required egress or other modification to meet the State Building Code and State Fire Code, (ii) for any projections allowed under Section 5.3.9, and (iii) to the extent authorized by a special permit issued pursuant to clause (iii) of Section 5.9.2.B(1), fifth bullet.

Summary

This Article would let Special Permit Authorities (ARB / ZBA) reduce parking requirements to as low as zero in all Business Districts.

What Changed From The Original Proposal?

The original proposal restricted the scope of the article to B1/B2/B2A/B4 businesses under 6500 sqft. The ARB gave feedback recommending removal of the restriction on sqft.

The primary concern cited was how to handle cases where two storefronts merge together, or one storefront subdivides into two, which could make them be above or below the 6500 sqft threshold. Eliminating the sqft threshold means these cases won't be an issue.

What is the final motion?

Shown below. Underline is addition, ~~strikethrough~~ is deletion.

6.1.5. Parking Reduction in Business, Industrial, and Multi-Family Residential Zones

The Board of Appeals or Arlington Redevelopment Board, as applicable, may allow the reduction of the parking space requirements in the R5, R6, R7, Business, and Industrial Zones to 25 percent of that required in the Table of Off-Street Parking Regulations if the proposed parking is deemed adequate and where Transportation Demand Management practices are incorporated, as evidenced by a Transportation Demand Management Plan approved by the Special Permit Granting Authority. Methods to reduce parking on site may include but are not limited to:

A. Shared Parking: To implement shared on-site parking, the applicant shall demonstrate that proposed uses are non-competing. In mixed-use developments, applicants may propose a reduction in parking requirements based on an analysis of peak demand for non-competing uses. In these cases, the parking requirement for the largest of the uses (in terms of parking spaces required) shall be sufficient.

B. Off-site Parking: An applicant may use off-site parking to satisfy their parking requirements as provided in Section 6.1.10. The applicant shall document efforts to promote use of off-site parking by customers, residents, or employees.

C. Transportation Demand Management (TDM): Any request for parking reduction must include a plan to reduce demand for parking. TDM provides incentives to reduce the use of Single Occupant Vehicles and encourages the use of public transit, bicycling, walking, and ridesharing. All projects requesting a parking reduction must employ at least three TDM methods described below:

- (1) Charge for parking on-site;
- (2) Pay a stipend to workers or residents without cars;
- (3) Provide preferential parking for carpooling vehicles;
- (4) Provide a guaranteed emergency ride home;
- (5) Provide transit pass subsidies;
- (6) Provide covered bicycle parking and storage;
- (7) Provide bicycle or car sharing on site;
- (8) Provide showers for business or industrial uses;
- (9) Other means acceptable to the applicable Special Permit Granting Authority.

When the applicable Special Permit Granting Authority determines that a business in ~~the B3 or B5~~ a Business District has no ability to create new parking onsite and that there is adequate nearby on-street parking or municipal parking, it may reduce to less than 25 percent or eliminate the amount of parking required in the Table of Off-Street Parking Regulations. In those circumstances, the applicable Special Permit Granting Authority may require the applicant to incorporate methods set forth in subparagraphs A., B., and C. of this section. The reductions described in this paragraph do not apply to residential use classes identified in Section 5.5.3. and are in addition to the exemption from the parking requirements for the first 3,000 square feet of non-residential space in a mixed-use development as set forth in Section 6.1.10.C.



Town of Arlington, Massachusetts

Meeting Minutes (2/8/21, 3/1/21)

Summary:

10:00 p.m. Board will review and approve minutes

ATTACHMENTS:

| Type | File Name | Description |
|----------------------|---------------------------------|----------------------------------|
| ▣ Reference Material | Draft_ARB_Minutes__02-08-21.pdf | Draft ARB Meeting Minutes 2/8/21 |
| ▣ Reference Material | Draft_ARB_Minutes__03-01-21.pdf | Draft ARB Meeting Minutes 3/1/21 |

Arlington Redevelopment Board
Monday, February 8, 2021, 7:30 PM
Meeting Conducted Remotely via Zoom
Meeting Minutes

This meeting was recorded by ACMi.

PRESENT: Rachel Zsembery (Chair), Eugene Benson, Kin Lau, David Watson

STAFF: Jennifer Raitt, Director of Planning and Community Development, Erin Zwirko, Assistant Director, and Kelly Lynema, Senior Planner

The Chair called the meeting to order and notified all attending that the meeting is being recorded by ACMi.

The Chair explained that this meeting is being held remotely in accordance with the Governor's March 12, 2020 order suspending certain provisions of the Open Meeting Law G.L. c. 30A, Section 20. This order from Governor Baker allows for meetings to be held remotely during this time to avoid public gatherings.

The Chair introduced the first agenda item, MBTA Community District to discuss the proposed zoning amendment to comply with new requirement in MGL 40A for MBTA Communities. Ms. Zwirko reviewed the timeline and the proposal. Ms. Zwirko said that the upcoming grant cycle will not be affected by the State's requirement to meet the new law. Ms. Zwirko said the Board has the option to continue discussions and submit a warrant article for the 2022 Town Meeting or proceed with the amendment included with the agenda packet. The Chair said that the staff has put in a good amount of work to present this information this evening and would like to review the proposal. Ms. Zwirko reviewed the overlay area the major points from the amendment for multifamily zoning for MBTA communities. Mr. Lau asked if the B1, B2, and PUD areas would provide enough space. Ms. Zwirko said that based on her experience that these areas would be considered a reasonable area which would meet the State's requirements. Mr. Benson suggested including R2 lots on Mass. Ave. that are subject to the overlay district. Ms. Zwirko said one R2 parcel is a historic structure and two other R2 parcels could possibly be included. Mr. Benson said he liked that mix-use was included with the proposal. Mr. Watson asked if the parcels on both sides of Mass. Ave were included. Ms. Zwirko said that she looked at the parcels within the half mile radius. Ms. Zwirko said she focused on the western side of Mass. Ave. Mr. Watson said that he feels that Ms. Zwirko's report is as complete as possible at the moment. Mr. Watson asked when the next cycle of grant funding will take place, Ms. Raitt explained that would be in June of next year. The Chair opened the floor to the Board to discuss whether the Board would like to submit this proposal to Town Meeting or to continue to work on this proposal for next Town Meeting. Mr. Lau said that he would like to see if this map up to a mile outside of Alewife to see how many more lots would be included. Mr. Benson said that he would also like to differ until we can confirm that the current map meets the State's requirements, would like to see the mile radius, and would like to consider three family structures in the R2 district. Mr. Watson said he would also like to defer and await State guidance. The Chair said that she agrees and would like to defer to further study and determine what type of outreach will be necessary at the time.

The Chair opened the floor to public comment.

James Fleming said he feels that the State will not find the half mile overlay will be sufficient with the current zoning requirements in the R2 district. Mr. Fleming suggested tying the new construction into the Special Permit process. Mr. Fleming said that he likes that the parking requirements in these districts are lower but as this is intended to be public transit-oriented development Mr. Fleming asked why any parking requirements at all would be needed.

John Worden said he is okay with redevelopment but there is no rush. Mr. Worden said he would ask the Board to come up

with the minimum number of things to be done to satisfy requirements. Mr. Worden asked the Board to consider what is best for the people of Arlington.

Don Seltzer said that the State mandate requires 3 family houses to be built by right somewhere in the R2 district. Mr. Seltzer said that the bylaw just needs to be tweaked to include 3 family by right instead of by special permit. Mr. Seltzer said the law does not say anything about changing yard setbacks and open space. Mr. Seltzer asked what is family friendly about a lot that is completely built up. Mr. Seltzer said that Arlington has already reached its density goals. Mr. Seltzer said that he agrees with the Board members who asked to defer this proposal to continue to make sense of the mandate.

Steve Revilak said that he is also in favor of deferring this proposal until next Town Meeting because it sounds like we would be able to do so without penalty. Mr. Revilak said it would be nice to wait until the guidelines for compliance are issued. Mr. Revilak said that in the event changes are required we will have to make changes within the R2 district. Mr. Revilak suggested some wording updates for the proposal.

(Name and address not clear on recording) asked what the financial impact to the Town will be including added classes, and staff at schools, etc. Ms. Zwirko said the staff would be able to work with the finance department at Town Hall for more information. (Name not clear on recording) also suggested having meetings with not just the affected precincts, but the entire town.

Laura Leibensperger said it seems like East Arlington is getting walloped with more development. Ms. Leibensperger said that East Arlington is already a highly developed with little open space and East Arlington is going to bear the brunt of this State mandate.

Carl Wagner said he thinks that this is a laudable goal at the same time the people who live in East Arlington because that area is already over developed and it is sad that two-family structures do not count.

Chris Loreti said that he supports the Board deferring action until we have more guidance from the State. Mr. Loreti said he also read this as a by right development. Mr. Loreti said that all that needs to happen is to change the Special Permit uses to by right uses. Mr. Loreti said he is concerned about the lack of setbacks and 40-foot walls. Mr. Loreti said he is concerned about the inclusion of mixed-use in this overlay area. The Chair said she would like to clarify that this report was requested by the Board to see what is possible to meet this requirement.

James Fleming asked if bus stops are also in scope for this law. Ms. Zwirko said that the law specifies bus stations not individual bus stops. Ms. Zwirko said she expects that the guidance from the State will make this clear.

Patricia Worden said as a former School Committee member she is extremely concerned about the lack of interest by the staff regarding the school population in that area. Ms. Worden said she cannot believe that the Board is considering increasing the population density without consulting the School Committee and examining the additional school costs to the Town.

Don Seltzer asked about the half-mile distance criteria, Mr. Seltzer said that the real intention is for people within walking distance to Alewife T station. Mr. Seltzer said that you must consider that may not be a half-mile as the crow flies, that additional guidance regarding the intended walking distance is needed.

Stuart Brorson asked if the Town uses the grants that would not be available if the Town does not follow the State's mandate. The Chair said yes and asked Ms. Raitt to provide an overview of those grants. Ms. Raitt said that the three major grants include MassWorks, which provides public infrastructure grants that help to advance housing and economic

development across the State. Ms. Raitt said that the Town will be using MassWorks funds to address the intersection at Mass. Ave. and Appleton and have used these funds in the past to improve Arlington Center. Ms. Raitt said the Housing Choice grant provides programs for planning and capital funding for housing development. Ms. Raitt said that if Arlington were to meet the requirements for this grant, then we would be able to take advantage of the development. Mr. Brorson said that it sounds that the grants are for development, which is money we do not need. Mr. Brorson asked the Board to do a cross benefit analysis to see we need these funding sources. The Chair said that the need to apply for the funds for the intersection at Appleton street is a public safety issue, which will take a significant amount of funding to address. Ms. Zwirko said that it is possible to meet the requirements for a three-decker within the business district but currently only one lot in that area is the size to meet the requirements.

Mr. Lau said he would like to see more discussion around this plan and would like to see other options. Mr. Benson said he grew up in a triple decker and feels it is not going to make a major change, the children will still have access to nearby parks. Mr. Benson said that those lots are already well developed so Mr. Benson doubts there will be a major influx to the school system.

The Chair introduced the second agenda item, Update on Redevelopment Board properties and asked Ms. Raitt to provide the overview for 23 Maple Street, and that DPW would like to use this property as offices as the DPW campus will be under construction and renovation for the next 18 to 24 months. Mr. Benson asked if there is handicapped accessible entrances. Ms. Raitt said that there is a handicapped accessible rear entrance and accessible restroom on the first floor. Mr. Benson said he thinks this is a good solution for the meantime. Mr. Lau asked about the required renovation/updates would be required. Ms. Raitt said that the updates are minimal. Mr. Watson said that this is a reasonable use for this short-term need. The Chair said she agrees and would like to discuss the plans for the property in the future. The Chair opened the floor to any neighbors to this property who wished to speak.

Shirish Hirani, a Maple Street neighbor, said he would like to thank Ms. Raitt for keeping them posted with the events happening at 23 Maple Street and being so open to discussing the neighbor's concerns. Mr. Hirani said that the neighborhood is concerned about traffic and trucks and Mr. Hirani is glad that the Board made note of that.

Max Mahoney, a Maple Street neighbor, said that they have had problem with the property over the last few years and appreciates the efforts Jenny has put into the next use for this property. Mr. Mahoney said he hopes that future uses are subject to a written lease approved by the Board. Ms. Raitt said it is a Town department so in this case Ms. Raitt said she would like to put together a lease that makes sense for the temporary Town use.

Ms. Raitt also gave an update regarding the Central School Building Renovation. Mr. Lau asked if we are on schedule and budget and Ms. Raitt said that outside of an initial COVID-19 delay the project is generally on schedule and on budget, though there have been change orders as is typical with projects, particularly with building renovations. Mr. Benson asked about the name change for the Central School Building. Ms. Raitt said that the building will be named the Community Center as the Board discussed at a prior meeting in 2018.

The Chair introduced the third agenda item, Meeting Minutes (10/28/20). Mr. Watson moved to approve these meeting minutes as amended, Mr. Benson seconded, approved 4-0.

The Chair introduced the fourth agenda item, Open Forum and opened the floor to the public.

Don Seltzer said he has a correction regarding the William Clark House 400 Mass. Ave. said that there are two bedrooms each in this property, which affects the parking regulation. Mr. Seltzer said that the floor area that exists today far exceeds what was approved in 1980. Mr. Benson asked if Mr. Seltzer is reporting this to the Building Inspector. Mr. Seltzer said that he is going to report this information to the Building Inspector and the ZBA.

With no other members of the public in queue to comment the Chair closed the Open Forum portion of the meeting.

Mr. Lau asked if the Board could get an update with the projects the Board has approved and the status of those projects. Ms. Raitt said that the requested update will be included with the 2/22/21 meeting agenda.

Mr. Lau moved to adjourn, Mr. Watson seconded, approved 4-0.

Meeting adjourned.

DRAFT

Arlington Redevelopment Board
March 1, 2021, 7:30 p.m.
Remote Open Meeting
Meeting Minutes

This meeting was recorded by ACMI.

PRESENT: Rachel Zsembery (Chair); David Watson; Eugene Benson; Kin Lau; Melisa Tintocalis

STAFF: Jennifer Raitt, Director, Planning and Community Development; Erin Zwirko, Assistant Director, Planning and Community Development

The Chair opened the meeting at 7:30 p.m. and moved to the first item on the agenda, docket 3647, 10 Sunnyside Avenue.

Robert Annese, the attorney for the applicant, introduced himself and stated also present were the architect, Will Chalfont; Colin Beatty and Jim McIntyre, principals; and Joe Walker, contractor.

Mr. Annese and Mr. Chalfont presented the plans. Discussion followed.

Mr. Lau was concerned about the close to zero lot line; he also suggested the top level could be less heavy. Mr. Chalfont stated he would address this

Mr. Watson and Mr. Annese disagreed about the clarity of the applicant's language as to separation of the buildings. Mr. Watson stated the upper stories do not have stepbacks and advised Mr. Chalfont that the zoning bylaw does require them. Mr. Watson stated that the project does not meet the requirement for usable open space, but the Board was amenable to granting parking reductions, and stated he was torn because the proposed units are larger and less affordable than the units the Board would prefer.

Mr. Benson was concerned about whether the square footage was consistent with the zoning bylaw. Mr. Annese stated the Board could grant relief if needed, under mixed use. Mr. Benson raised his concerns about usable and landscaped open space, and requested the applicant provide a chart that shows the open space. He also requested a shadow study; Mr. Chalfont stated this was already done. Mr. Benson questioned whether this is a mixed-use project, when there are two separate structures that are just connected by a walkway. He stated the fourth story stepback was required and is putting the applicant on notice that he has grave concerns about approving this without a stepback, even if the Board has the discretion to do it.

Ms. Tintocalis asked whether live/work ensures that employees work and live there in perpetuity; Mr. Annese stated he did not believe so and this should not be a condition for approval.

The Chair opened the floor to public comments.

Leah Broder supported the proposal and asked if it would contain offices in perpetuity or possibly turn to commercial or retail space. The Chair stated there is no guarantee that would be a continued use. Mr. Watson stated if there was to be a change of use, they would have to modify the special permit.

Don Seltzer listed "many zoning problems."

Steve Revilak and James Fleming both spoke in support for the project.

Mr. Benson requested that Mr. Annese next time inform the Board of all requirements he wants waived or modified.

Mr. Watson suggested, per some public comments, investigating whether the geometry and circulation for the parking and access to the site was sufficient, and whether the proposed solar panels may be shadowed by the neighboring building.

Mr. Lau requested building materials be added to the discussion.

Ms. Raitt suggested continuing to March 15th. The Chair requested a motion; Mr. Watson seconded. The Board voted unanimously in favor.

The Chair moved to item 3, Town Meeting Warrant Article Hearings, Article 39, mixed use clarification.

Chris Loreti stated this amendment does not create any new use restrictions but merely clarifies prohibitions already in the zoning bylaw. Mr. Benson stated he did not see any ambiguity in the bylaw, and Mr. Loreti's amendment is overly broad. Mr. Watson agreed, as did the Chair.

John Worden asked if it would be possible for Mr. Bunnell to explain what he meant when he said the words that Mr. Loreti quoted earlier, because those words are not being followed, and that is the problem. The Chair stated that the specific text that was cited was part of a larger discussion, and the Board is working in the way the bylaw was written.

Aram Hollman spoke in support of the article, which would limit housing in mixed use to three units.

Brian McBride expressed his concern about the pressure from biotech in Cambridge to develop out-of-scale housing in Arlington.

Carl Wagner stated that Mr. Loreti's proposal brings the mixed-use law back to the way the Town Meeting voted, and there have been two or three occasions in the past year that are not in the spirit or even the letter of the mixed-use law.

Mr. Revilak stated the Board has done a good job using its discretion for the projects that have been permitted so far.

Mr. Seltzer stated it is the duty of this Board to amend the language of the bylaw to reflect what town meeting approved in 2016.

The Chair moved to Article 40, residential/commercial conversion.

Mr. Worden stated the Board has manipulated the mixed-use bylaw and should promote conversions to affordable housing.

Mr. Lau stated the town needs balanced housing that would include workforce housing for teachers, et al., who can live in town, and merely building affordable housing is not enough; this requires a broad range.

Mr. Benson agreed with Mr. Lau and the staff; the article doesn't serve the purpose of creating more affordable housing but does serve the purpose of making progress on all sorts of housing more difficult.

Mr. Watson agreed; he stated if Mr. Worden has more information on how the economics would work to allow for any housing development at all -- aside from affordable housing -- if this change were made, he would be happy to hear it.

Ms. Tintocalis agreed with her colleagues.

The Chair opened the floor to public comments.

Judith Garber requested clarification about how requiring more affordable housing will make it harder to create more housing. The Chair stated she did not believe that was the intent of Mr. Benson's comment. Mr. Benson clarified, stating that this proposal would hinder both market-rate and workforce housing.

Mr. Wagner spoke in support of Mr. Worden's amendment, which would keep developers from misusing mixed use to make large apartment buildings that they could not make under the 2019 laws.

Mr. Revilak stated one reason that affordable housing is proposed is to discourage the production of any housing whatsoever, whether it is affordable or not.

Matthew Owen spoke in support of the Board members and stated that the town should encourage the building of both market-rate and affordable housing.

Elizabeth Dray spoke in support of the article, stating the town needs very specific measures to get to affordable housing.

Mr. Fleming clarified Mr. Wagner's comment, stating new construction cannot be used as a baseline for rent because the developer has a mortgage and capital costs, and needs to get the money back over a fixed period of time.

Mr. Hollman spoke in favor of the article, stating what the town needs most of all is affordable housing and more commercial space.

The Chair moved to Article 34, zoning bylaw/marijuana uses. Ms. Zwirko summarized the memo.

Mr. Benson approved incorporating the new regulations and asked about the choice of allowing the marijuana-delivery-only retailer in industrial zones but not in other places. Ms. Zwirko stated it would be more appropriate to limit it to B4 and industrial zones.

Mr. Watson stated that Arlington as a town doesn't have a choice of whether to come into compliance with these regulations but can choose a reasonable way to implement the new requirements. Ms. Zwirko agreed.

Ms. Tintocalis asked if there has been a demand for these uses. Ms. Zwirko stated after a failed first attempt they have not received further inquiries; Arlington's existing dispensaries do not fall into the applicable category.

Absent public comments, the Chair moved to Article 28, zoning bylaw amendment for affordable housing requirements. Ms. Zwirko presented the article; changes were administrative.

The Chair opened the floor to public comments; seeing none, she moved to Article 29, apartment conversion.

Ms. Zwirko presented the article.

Mr. Benson asked whether it could be amended to include not only one- or two-family use but also duplex and three-family. Ms. Zwirko agreed.

The Chair opened the floor to public comments; seeing none, she moved to Article 30, zoning bylaw amendment/gross floor area.

Ms. Zwirko stated that this amendment includes language explaining how to calculate landscape and usable open space off the gross floor area, not the lot size.

Mr. Watson asked whether this was something that that was lost during the bylaw recodification and they were bringing it back in; Ms. Zwirko stated yes. Mr. Watson stated that in the zoning bylaw recodification that happened a few years ago, some items were missing some pieces. Mr. Benson agreed.

Mr. Lau requested Ms. Raitt clarify location of elevator shafts and stairwells. Ms. Raitt stated this is already in the existing bylaw.

The Chair opened the floor to public comments.

Mr. Worden requested a more effective cross-reference table to compare sections of the old and new bylaws.

The Chair opened the floor to public comments; seeing none, she moved to Article 31, zoning bylaw amendment/prohibited uses.

Ms. Zwirko stated this was a suggestion to include y (yes) or sp (special permit) designations. Mr. Benson spoke in approval.

The Chair opened the floor to public comments; seeing none, she moved to Article 32, zoning bylaw amendment/dimensional and density regulations. Ms. Zwirko stated this amendment pastes a missing legend into the "Other Districts" section.

The Chair opened the floor to public comments; seeing none, she moved to Article 33, administrative amendments for the zoning bylaws. Ms. Zwirko presented the article.

The Chair opened the floor to public comments; there were none.

Mr. Benson moved to close the public hearing; Mr. Lau seconded. The Chair stated the motion needs to continue to March 15th. Mr. Benson put in the new motion to continue; Mr. Lau seconded. The Board voted unanimously in favor.

The Chair moved to the next item, reopening docket 3638, 400-402 Massachusetts Avenue.

Mr. Annese stated he was accompanied by Cynthia Pasciuto, one of the principals; and architect Ken Feyl. He stated nothing can be done to disturb the property; it is now protected under Chapter 48, Section 7.

Mr. Annese asked Mr. Lau if he had viewed the video of the previous week's hearing. Mr. Lau answered yes and stated that he is in favor of granting the relief for two office spaces on the on the first floor, with one added apartment in the basement.

Ms. [Pascuto] corrected Mr. Lau, stating the residential unit would be on the first floor across from the commercial unit; the basement would remain the office unit and the first floor would be the residential. Discussion followed.

Mr. Benson requested the condition that the basement office unit be constructed and rented no later than the first-floor apartment unit. Discussion followed.

The Chair opened the floor to public comments.

Mr. Seltzer discussed rental revenue.

Mr. Hollman questioned naming units' "offices" or "studies" rather than bedrooms; The Chair advised him this had been addressed earlier; Mr. Annese stated they are labeled as offices on the plan.

Mr. Hollman asked about problems created by non-related persons parking; Mr. Annese stated there were never issues at the property; Mr. Benson later supported this.

Absent further comments, the Chair requested a motion to approve the application as amended; Mr. Lau so moved; seconded; the Board voted unanimously in favor.

The Chair moved to agenda item 2, an update on special permits issued by the Redevelopment Board from 2016 to 2020.

Ms. Raitt presented the report; discussion followed. Mr. Watson suggested more explicit commercial design guidelines. Ms. Raitt asked Mr. Watson how his proposed standards would differ from current design standards. Mr. Watson suggested finding consensus as to what Arlingtonians like most to see in town that could enhance the existing guidelines.

The Chair added that more explicit residential design guidelines could reduce the number of times that applicants have to come back before the Board. Further discussion followed.

The Chair moved to agenda item 4; review of the MOU related to 23 Maple Street.

Ms. Raitt stated they were still working on parking issues and hoped to have more on the 15th.

The Chair moved to open forum.

Mr. Revilak asked about the motivation behind the shift from brick construction to fiber paddle boards. The Chair stated that cost, timing, and aesthetics desired by the end user are the three big shifts that seem to impact those types of material choices. Mr. Lau agreed.

Mr. Seltzer stated that a member of the Disabilities Commission, who was not allowed to speak earlier, had important comments about lack of ADA accessibility; he suggested addressing this at the next meeting. The Chair stated for anyone who was not able to speak, the Board did open the warrant article public hearing, as advertised, and did remind everybody that they were encouraged to submit any written comments to Ms. Raitt, who would pass those on to the Board, and were welcome to participate on the 15th.

Mr. Seltzer asked Ms. Raitt if she had an update on the sale of 1207 Mass Ave; she did not.

Mr. Hollman asked how the Board balances considerations of density, affordability of housing, and larger social issues against strictly regulatory requirements and architectural design issues. Mr. Benson stated the Board is required to apply environmental design guidelines; within them there are opportunities to look at some of the issues Mr. Hollman brought up. He stated that the Board has given pushback to applicants when they do not follow the spirit or letter of those guidelines and the review criteria, and that one of the Board's major roles is to not go outside their lane. The Chair added that the Board considers the topics Mr. Hollman raised to be central when they review possible development. Mr. Watson agreed but stated the context in which the Board makes decisions varies from project to project, and they exercise discretion while staying within the spirit of the environmental design standards. Mr. Benson added that those standards are broadly written, so the Board can't do everything they would like to do in some circumstances, but it allows them to consider a lot of things.

The Chair closed public comment and requested a motion to adjourn; Mr. Lau so moved; seconded; the Board voted unanimously in favor.

Meeting adjourned.



Town of Arlington, Massachusetts

Correspondence Received

Summary:

Correspondence received from:
L. and T. Hayes 03282021

ATTACHMENTS:

| | Type | File Name | Description |
|---|-----------------------|--|--|
| ▯ | Reference Material | ARB_Letter_190-200_Mass_Ave_03- 2802021.pdf | Correspondence from L. and T. Hayes received 03282021 |

March 28, 2021

Arlington Redevelopment Board
730 Mass Avenue Annex
Arlington, MA 02476

Attention: Jennifer Raitt, Director of Planning & Community Development

Recently we received a notice in the mail about an upcoming hearing of the Arlington Redevelopment Board to consider a proposed development at 190-200 Mass Ave. Our home abuts the Capitol Square commercial district, so we were surprised that this was the first we heard of the proposed development. We appreciate the opportunity to submit comments for this Board's consideration.

After reviewing the proposal's plans and related documents online, we have significant concerns about the development and disagree strongly with the submitted Environmental Design Review statement. The proposed development as shown in the submitted plans do not comply with Arlington's Environmental Design Review Standards, and it should not be approved unless significant and substantial modifications are made.

This is a significantly-sized project, and as such, the developer should provide a model that shows the subject property's existing condition, the proposed development, and the surrounding buildings on both sides of Mass Ave and Lake Street.

As currently designed, the development is too large; it is so high that it will cast shadows on properties beyond Mass Ave. It contains units that are undersized, with some less than 400 s.f., and it has insufficient parking for the number of units proposed. The project would dramatically reduce the total amount of restaurant and retail space in the center of one of Arlington's main commercial districts; this appears to be a residential project in a business district, which we cannot support. It will worsen rather than improve the pedestrian experience in a highly walkable neighborhood, and could quite possibly create a dangerous situation for children walking to school along Chandler Street. Since the upcoming hearing before the Arlington Redevelopment Board is intended to review the development with regard to the [Environmental Design Review standards of Section 3.4 of the town's Zoning By-law](#), we would like to provide the following comments with those standards in mind.

Relation of Buildings to Environment: The proposed development is not related harmoniously either to the scale and architecture of the existing buildings in the

immediate environment, or even to the existing bank structure on the lot. The development is taller than the neighboring office building at 180 Mass Ave and the Capitol Theatre building, and the development's design obliterates the historic attractiveness of the existing bank structure on site. There is no cohesiveness between the existing bank, the new first floor retail, and the residential units above -- the design is unattractive, and the building would oppressively loom over the center of the Capitol Square neighborhood. The proposal needs to be reduced in size and undergo substantial design improvements. The massiveness of the development underscores the complete disregard for what is the allowed FAR for the site.

Additionally, the proposal's documents indicate that the new structure would "cast shadows on existing structures in the R2 zone during the evenings of winter months when long shadows are already cast by existing structures and foliage." Since our home is likely one of these "existing structures," we would like to see the actual shadow study images. Additional shadows in the winter months when sunlight is at a premium is of extreme concern to us. Deciduous foliage does not cast significant shadows on our home in the winter time -- any shadows on our home during the winter months are typically from the office building at 180 Mass Ave. We strongly oppose a structure that will exacerbate that condition.

The exterior design elements of the building do not relate to the general architectural character of the Capitol Square neighborhood. Large expanses of residential clapboard or paneling exterior does not acknowledge the chiefly brick and stone exteriors of nearly every other building on Mass Ave in the immediate vicinity. The proposed building looks completely out of place.

Open Space: In no way should a large, unprogrammed roof deck located at the fourth floor be considered open space that meets this design standard. It will not be visible for persons passing by it, and no one except for the building's own tenants would be able to overlook it. No details have been provided on how this space is foreseen to be used and maintained (furniture, storage, recreation, etc.).

Circulation: The sidewalks surrounding this lot have a high level of pedestrian activity, and both Lake Street and Chandler Street are typical walking routes to Hardy School. The proposed garage entrance on Chandler Street would have no setback, creating an unsafe condition for the pedestrians using the street, many of them children.

Additionally, garage ventilation openings so close to the sidewalk would substantially degrade the pedestrian experience, especially along Lake Street. This is a narrow sidewalk, whose street poles and furniture already make it difficult to walk through even

with an open umbrella -- replacing the existing storefronts with garage openings is clearly a negative development. The Capitol Square neighborhood deserves better.

Below-grade parking, possibly taking advantage of the lot's existing slope, should be considered as an opportunity to provide more parking (15 spaces is insufficient for the number of proposed units) as well as keep an active commercial streetscape along Lake Street.

Utility Service: Details about waste management and transformer locations (if any) are not indicated on the plans or in the written documents. There should not be a lack of planning at the outset for trash and recycling.

Heritage: We appreciate that the existing bank structure is being retained and incorporated in the proposed development. However, the current proposal would remove that building's roof line, and the residential building weighs down and detracts from its appearance.

This development proposal does not comply with the standards under Section 3.4, and it would result in a substantial adverse impact upon the character of the Capitol Square neighborhood. A special permit under this section should not be issued unless dramatic changes are incorporated.

Sincerely,



Lara Curtis Hayes and Terrence Hayes
5 Cleveland Street, Arlington, MA